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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

Member

MARCH, 1943

Vol. 96, No. 3

When Seconds Count

A CASE - SHEPPERD - MANN PUBLICATION

Nation-Wide Coverage!

Fire and Police Departments, Industrial Corporations, Hospitals and the Armed Forces

Emerson Sales and Service

throughout the nation, together with the unique performance record of the Emerson Resuscitator, Inhalator and Aspirator, account for the fact that more than one thousand additional units went to work last year to do their part in reducing asphyxial death.

There is an Emerson Resuscitator designed to fit your particular needs. Let us show you what it will do for your community.

PRODUCT OF

J.H.EMERSON COMPANY

Cambridge, Mass.

REPRESENTATIVES IN ALL PRINCIPAL CITIES

CHICAGO, ILL. • DETROIT, MICH. • LINCOLN, NEB. • SALT LAKE CITY, UTAH • OAKLAND, CALIF.
NEW YORK, N. Y. • BOYERTOWN, PA. • COLUMBIA, S. C. • ROCHESTER, N. Y. • ST. PAUL, MINN.

New! THE FEDERAL Fury Exhaust Whistle

Simple removal of a plug from the resonating chamber changes this whistle from low to high pitch.

Constructed of non-critical materials — no priority required

● A penetrating, powerful, unmistakable warning signal that clears the way for many blocks ahead—the FEDERAL Fury Exhaust Whistle—the signal designed to save lives and protect property in communities where the use of vehicle sirens has been restricted to avoid confusion with air raid siren alarms.

The FEDERAL Fury is made in two sizes to fit exhaust pipes from 4½" down to 1½" diameter. The Model L is 11" high, for application to exhaust pipes from 4½" down to 2¾", and Model S is 8½" high for exhaust pipes 2½" to 1½" diameter. When ordering give outside diameter of exhaust pipe, or its circumference, because each whistle is carefully machined to fit your particular vehicle.

Each FEDERAL Fury Whistle, completely assembled and furnished with pull cable and tension spring, may be cut into the exhaust pipe anywhere between the engine and the muffler—exact location depending upon space available.

Write, today, for new bulletin and prices! If your community now permits vehicle sirens, we can supply a wide variety of electric sirens—the product of 40 years of FEDERAL research in *signals by sounds.*

FEDERAL ELECTRIC CO., INC.

SIREN HEADQUARTERS

8702 South State Street Chicago, Illinois

FIRE ENGINEERING

A Consolidation of Fire and Water Engineering, The Fire Engineer and Fire Protection

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FRED SHEPPERD
Editor

It's Your Privilege

COMPLAINTS are few and far between in the office of FIRE ENGINEERING; but after all, this is *your magazine* and we do expect to hear from you when anything goes wrong.

Slow Delivery

● For instance, if you don't get your March issue until May! But give Uncle Sam plenty of leeway, these hectic war days, to make delivery. The mails are necessarily slow.

● Recently we had this "complaint" from a California subscriber, who wrote in substance:

● "I certainly don't want to miss a single copy of your wonderful paper —have read it and kept it for years— every month look ahead to the next issue, but haven't yet received this month's. I'm taking an examination for Battalion Chief and must have it. FIRE ENGINEERING has been the basis of all my promotions and I cannot afford to miss a single copy. Hurry it up!"

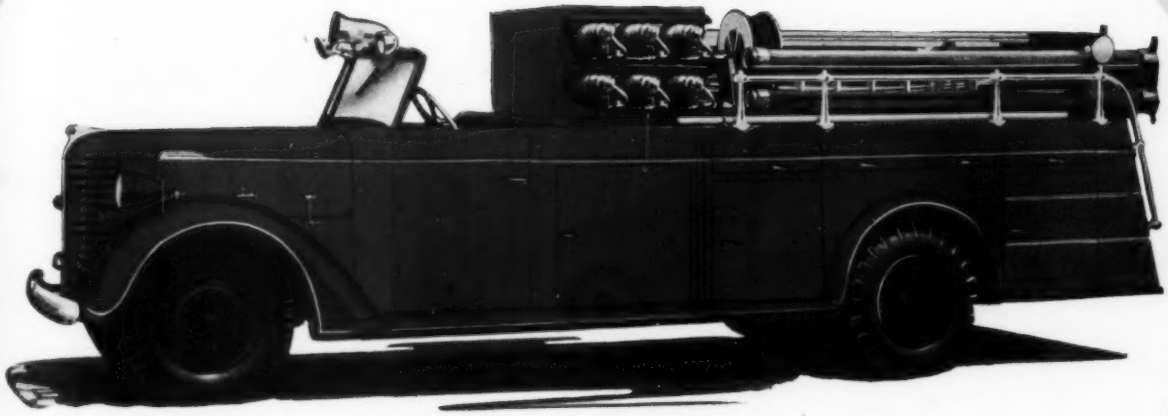
● We are gratified to hear, so frequently, how highly FIRE ENGINEERING is regarded.

The Publishers

FIRE ENGINEERING

The Journal of the Fire Profession since 1877; published on the tenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th Street, New York City, also publishers of *Water Works Engineering, Sewage Works Engineering*, etc. ¶Subscription price U. S. and Latin America, $2 a year; Canada, $2.50; Foreign, $3; Single copies, 25c. ¶Member of Audit Bureau of Circulations and Associated Business Papers, Inc. ¶Entered as second-class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 3, 1879. ¶Contents of this issue copyrighted, 1943, by Case-Shepperd-Mann Publishing Corp. ¶KARL M. MANN, President; I. HERBERT CASE, Vice-President and General Manager; W. J. GIBSON, Eastern Representative; WM. H. TOPHAM, Circulation Manager. CHICAGO OFFICE: W. S. CLEVENGER and L. M. ROCHE, 6 No. Michigan Ave.; SAN FRANCISCO: CHARLES H. WOOLLEY, 605 Market Street; LOS ANGELES: AUGUST HAURIN, 6000 Miramonte Blvd. ¶Printed in U. S. A.

A CASE-SHEPPERD-MANN PUBLICATION
"*Specialized* Leadership"



One of two specially designed and equipped Buffalo Heavy Duty 750 gallon Triple Combinations recently furnished to one of America's leading aircraft manufacturers.

FRONT LINE INDUSTRIAL DEFENSE

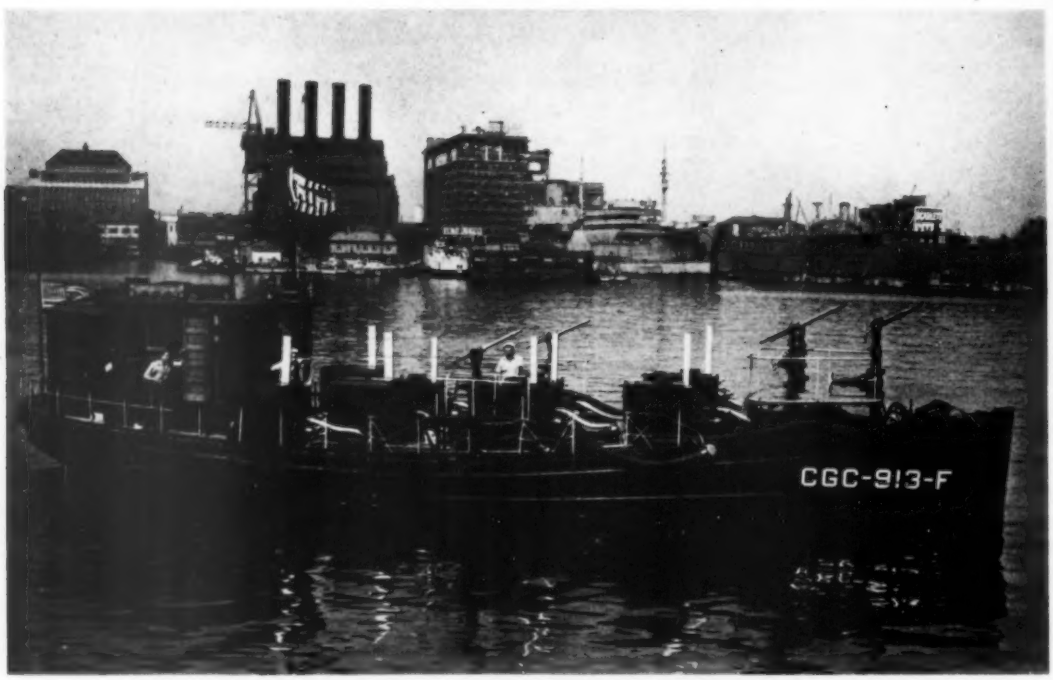
★ ★ ★

BUFFALO FIRE APPLIANCE CORPORATION

BUFFALO . . . . NEW YORK

HALE FIRE PUMPS

ARE BEING DELIVERED TO OUR ARMED FORCES AND TO MUNICIPAL AND INDUSTRIAL FIRE DEPARTMENTS, TO PROTECT THE IMPLEMENTS OF VICTORY. . . . . .



One of Many U. S. Coast Guard Fire Boats
Equipped with Hale Fire Pumps and Pumping Units

THERE IS A HALE FIRE PUMP TO MEET YOUR PARTICULAR WARTIME PROBLEM OF SAVING LIVES AND PROPERTY

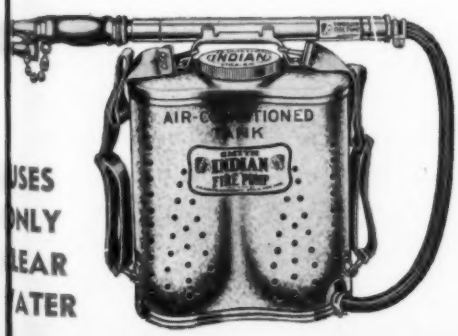
HALE FIRE PUMP COMPANY, INC.
CONSHOHOCKEN, PA.

Please mention FIRE ENGINEERING *when writing advertisers*

INDIAN FIRE PUMPS

are the outfits you need to prepare for the spring and summer fire season!

With 5 gal. tank slung on his back operator can move about quickly in fighting the fire. No need to stop and pick up the extinguisher. Arms are left free for climbing ladders, etc.



Wartime fire hazards multiply the job of the fire department. To meet this added responsibility you need *INDIAN FIRE PUMPS*. These portable, all purpose extinguishers will handle 70% of your calls. No hose to lay. Clear water harms nothing. No scarce, expensive chemicals to buy. Now, more than ever before, *INDIAN FIRE PUMPS* are the firemen's best friend. Pump throws powerful, 30 to 50 ft. pressure stream, or nozzle is adjustable to a spray. *Order now!*

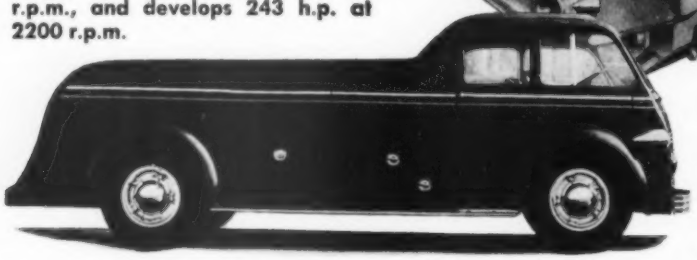
SEND FOR CATALOG AND TESTIMONIALS

D. B. SMITH & CO., 406 Main St., UTICA, N. Y.

PACIFIC COAST BRANCH: Harrelson Equipment and Rubber Co., 125 Bryannan St., San Francisco, Cal.

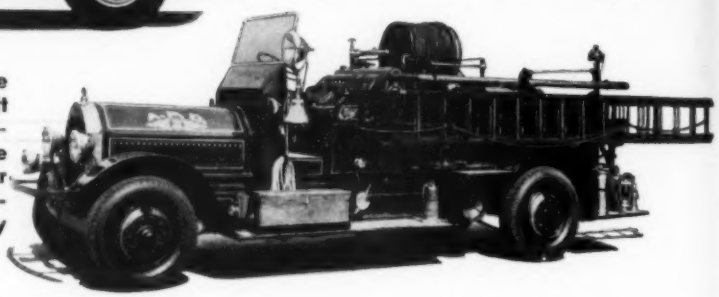
Hall-Scott Engines...

Hall-Scott Model 177 engine for fire truck service. This engine has 6 cylinders, 5½" x 6", a piston displacement of 855 cubic inches, a maximum torque of 735 foot-pounds at 1200 r.p.m., and develops 243 h.p. at 2200 r.p.m.



Triple combination 1250 gallon pumping engine built by Kenworth Motor Truck Corporation, Seattle, Washington, owned by M. G. M. Studios, Los Angeles, California, and powered by a Hall-Scott Model 190 engine.

By repowering this 750 gallon Seagrave pumping engine with a modern Hall-Scott Model 177 engine, the Alameda Fire Department, Alameda, California, found that the installation of this engine gave them greater maneuverability on the highway, greater reliability of engine performance, and a slightly increased pumping performance.



...IN NEW OR REPOWERED FIRE APPARATUS

For 18 years Hall-Scott engines have been used with great success in new and in repowered fire fighting equipment. The Hall-Scott engine is expressly designed to give the utmost flexibility of road performance under today's traffic conditions. This it does, not by increasing the top road speed, but by providing increased torque in the lower engine R.P.M. ranges — thus obtaining quicker acceleration after necessary slow-downs for traffic, or in rounding corners.

Great cash savings can usually be made by using Hall-Scott engines to repower old fire apparatus, since — with the exception of having motors no longer adequate in power or in performance to cope with today's traffic — such apparatus is generally practically as effective as new in fighting fires. For even quite old apparatus carries the same equipment, performs the same functions, and lacks, possibly, only some modern streamlining of its appearance.

HALL-SCOTT MOTOR CAR COMPANY DIVISION OF AMERICAN CAR AND FOUNDRY MOTORS COMPANY

Factory and General Offices: 2850 Seventh Street, Berkeley, California

FACTORY BRANCHES: SEATTLE, WASH. • PORTLAND, ORE. • LOS ANGELES, CALIF. • NEW YORK CITY

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*

DOUGLAS AIRCRAFT COMPANY

Famous Builder of Bombers, Large Transport and Cargo Planes

PROTECTS ITS PRECIOUS MANPOWER

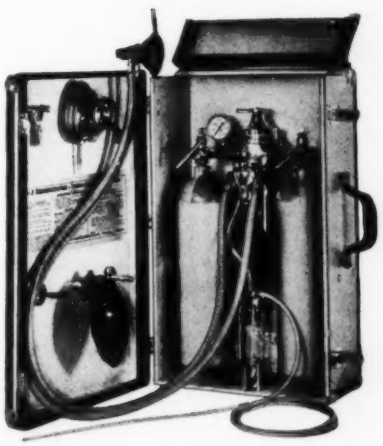
With The E&J RESUSCITATOR INHALATOR and ASPIRATOR

EVERY good American has reason enough to applaud the achievements of the Douglas Aircraft Company and its magnificent contribution to the war effort.

Building airplanes in the volume and with the exactness of present day requirements is a modern miracle that only a precision-minded organization like Douglas could have ever accomplished. Right down to the smallest detail, Douglas checks and double checks to make sure everything is right.

It is significant that Douglas uses E & J Resuscitators in its first-aid work, and is satisfied that it has the best equipment money can buy.

When artificial respiration is needed, it's usually a matter of life or death. That's why you need the proven security that goes with being E & J equipped.



Write to any of our distributors listed below for further information.

E & J MANUFACTURING CO., GLENDALE, CALIF.

Drexel Bldg., Philadelphia — 17 East 42nd St., New York City — 530 Fernando St., Pittsburgh — McKesson & Robbins, Birmingham, Ala. — 181 Boylston St., Boston — 4448 W. Washington, Chicago — 2900 Grandy Ave., Detroit, Michigan

Pioneers and Specialists in Mechanical Artificial Respiration

MIDWESTERN FIREMEN'S CLOTHING

Protects Those Who Protect Our Vitals

YES! WE CAN EQUIP YOU FOR YOUR HAZARDOUS JOB of PROTECTING LIFE and PROPERTY AGAINST FIRE

Some of our customers have gathered the impression that due to the war, needed protective clothing for municipal firemen cannot be purchased. Naturally, the needs of those who protect our war vitals come first. The War Production Board has advised us that there is a definite need for protective clothing to be worn by firemen at the scene of operation. Therefore, we are able to ship many items frequently with little or no delay. However, we urge that these needed garments be ordered as far in advance as possible.

★ MIDWESTERN SAFETY COATS

Midwestern's famous life protecting yellow striped coat — far more easily seen when visibility is poor. Still available, although Midwestern is equipping the fire fighters of the war. Write us for full descriptions, catalog, and samples of fabrics.

MIDWESTERN COMBINATION SUIT

Detachable Lining

Rubberized coat and Bunker Pants with detachable wool linings. Flexible elastic inner sleeve for wrist keeps out water, cold and sparks. Wool lining can be added to any Midwestern fire coat at small additional cost. Snap buttons make it easy to attach and detach quickly.

BUNKER PANTS

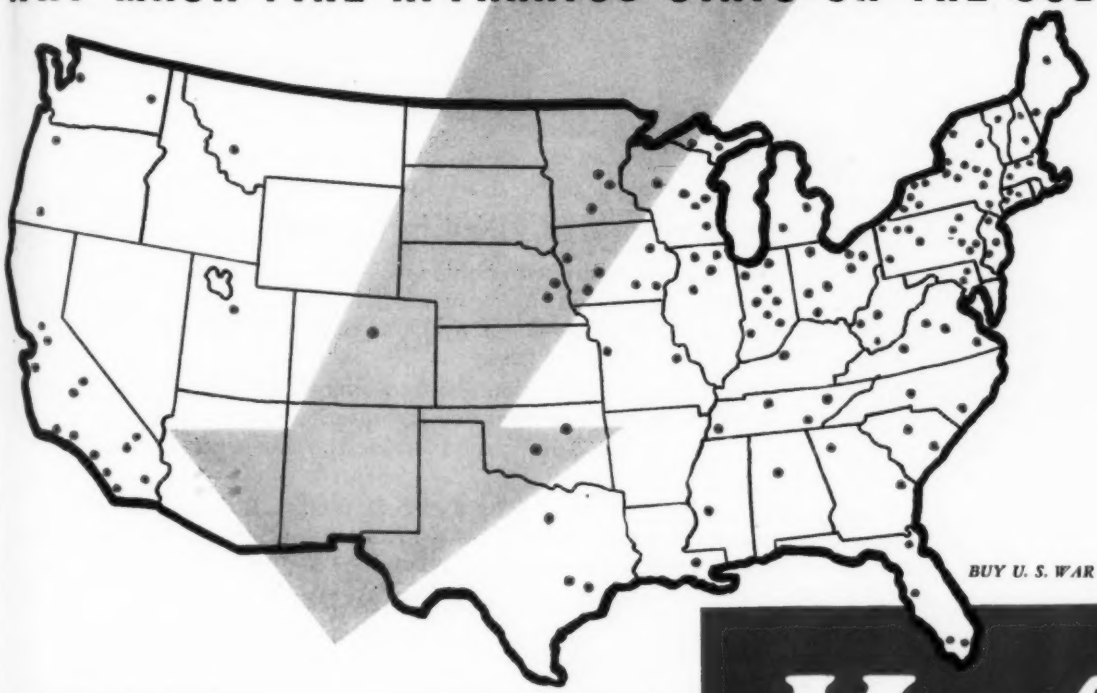
Bunker Pants equipped with removable wool lining, sturdy construction, reinforced crotch for pole sliding. These pants together with coat as illustrated at left is Midwestern's combination suit No. 101.

See your local Midwestern representative or distributor, or write directly for complete literature, including prices, material samples and deliveries.

MIDWESTERN MFG. CO., MACKINAW ILLINOIS

200 GOOD REASONS

WHY MACK FIRE APPARATUS STAYS ON THE JOB...

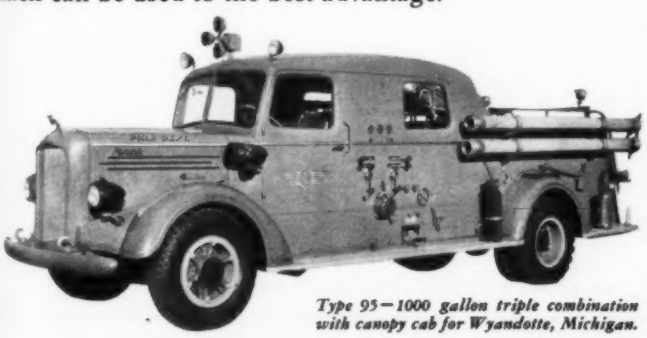


BUY U. S. WAR BONDS

125 Mack dealers . . . more than 70 direct factory branches offer complete Mack Service!

It takes the industry's greatest engineering and manufacturing resources to build a Mack.

Our policy has always been to provide also the industry's best service facilities so that what we build into every Mack can be used to the best advantage.



Type 95—1000 gallon triple combination with canopy cab for Wyandotte, Michigan.

Mack

FIRE APPARATUS

Although we are working night and day to produce military equipment—we can also build and deliver highest quality Mack Fire Apparatus to communities which need it.

• • •

MACK MANUFACTURING CORPORATION
FIRE ENGINE DIVISION
LONG ISLAND CITY, N. Y.

A sudden roaring *Fire* killed in its tracks—in seconds

There's no telling how many man hours will be lost this year because of fires. It's anybody's guess how many plants doing vital war work will be shut down because of damage caused by water, sand and other agents and instruments used to extinguish fires.

But this is a fact: any plant using flammable chemicals, liquids in dip tanks, spray booths, storage, mixing rooms and laboratories can smother fires in split seconds with C-O-TWO and carbon dioxide, the fastest non-damaging extinguishing agent.

For the industries that depend upon dynamos, motors, transformers and other electrical equipment, C-O-TWO is invaluable, safe, non-damaging, non-conducting, fire fighting equipment.

IT'S SAFER *because* IT'S FASTER

C-O-TWO kills fire in seconds with a sub-zero blast of carbon dioxide gas and there will be no damage to machinery or materials. You will be back in production without delays caused by water-flood and battering axes.

C-O-TWO is not specified as the only type of fire extinguishing equipment you may require. However, C-O-TWO is recommended and approved for protecting gasoline, oil, grease, paints, lacquer, alcohol, butane and electrical equipment against fire. C-O-TWO protects against shut-down caused by fire damage.

There are C-O-TWO portables of the hand and wheeled type, hose reel units and systems with manual or automatic operation for general and special risks.

INSTANT ACTION

Permanently installed automatic or manual system may be engineered to protect one or more spaces from the one C-O-TWO installation.

QUICK AS THE WIND

With C-O-TWO hand and wheeled type portables, carbon dioxide is directed at the base of the fire, killing the fire—without damage—in seconds.

FOR FAST KNOCK OUT

In laboratory or bench fires, these small, fast acting 4, 10 and 15 pound cylinders of C-O-TWO carbon dioxide gas kill fires almost instantly.

C-O-TWO

C-O-TWO is a registered trade mark. To be safe, specify C-O-TWO and this company's name.

C-O-TWO FIRE EQUIPMENT CO.

NEWARK, NEW JERSEY

Sales and Service in the Principal Cities of United States and Canada

READY
TO FAN THE SMALLEST SPARK OF LIFE!

NO CHANCE FOR ERROR
REGARDLESS OF CIRCUMSTANCES

★ **ABSOLUTELY FOOLPROOF** ★

Firemen daily face emergencies and situations which call for prompt action — and action which cannot be jeopardized by ineffective or inefficient men or equipment.

When it comes to saving a life — there are no substitutes or short-cuts worthy of the task at hand.

The CLARK INHALATOR is so constructed as to absolutely prevent any chance for error on the part of human judgment or lay-down on the part of the apparatus. Free Flow controls assure instantaneous and effective flow of oxygen and carbon dioxide without any chance of interruption.

CLARK DUPLEX

PHYSICIANS OXYGEN & HOSPITAL SUPPLY CO., Inc.
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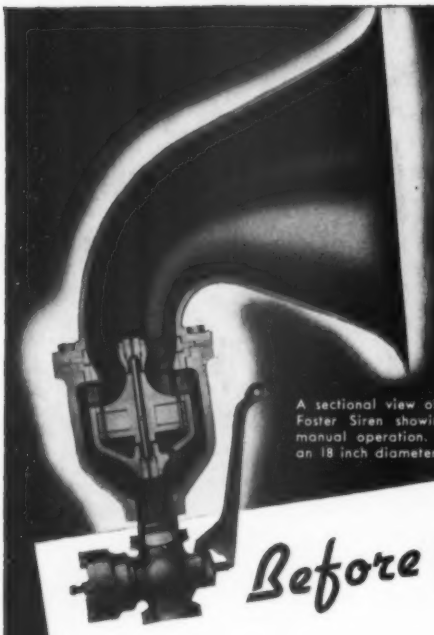


A sectional view of the Type 45 Foster Siren showing valve for manual operation. This size has an 18 inch diameter horn.

Is your air-raid warning system adequate?

Before you order additional sirens . . . Check these points

1 Are they available now?

We have a supply of Foster Sirens *in stock*. And—as they are manufactured of fewer non-critical materials than many other sirens, a correspondingly lower priority is required.

2 Are they sufficiently audible?

The Foster Siren has one of the widest ranges of audibility—one of the highest decibel ratings. The Type 45, for example, produces a sound level of 125 to 130 decibels at 100 feet—and is non-directional.

3 Are they adaptable to existing conditions?

This siren may be manually operated, or you can add a solenoid valve for electric remote control . . . either for separate push-button operation, or tied in as an integral part of an air-raid warning, fire-alarm or other signal or coding system.

4 Are they expensive?

On the basis of "dollars per decibel", the Foster Siren is lower in price than any siren manufactured, according to the latest figures available. The initial cost is not only low, but installation costs are far below those of sirens of comparable audibility.

Send for Bulletin 29

FOSTER ENGINEERING Company

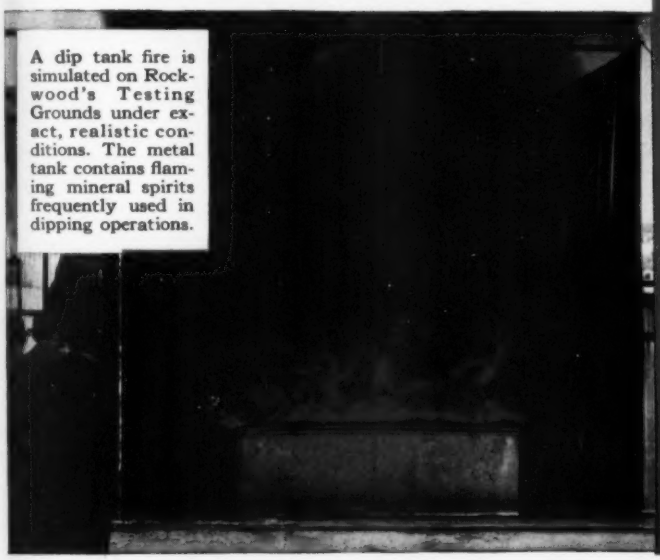
PRESSURE REGULATORS...RELIEF AND BACK PRESSURE VALVES...AUTOMATIC STOP AND CHECK VALVES...ALTITUDE VALVES...DAMPER REGULATORS...FAN ENGINE REGULATORS...PUMP GOVERNORS...TEMPERATURE REGULATORS...LIQUID LEVEL CONTROLLERS...FLOAT AND LEVER BALANCED VALVES...NON-RETURN AND TRIPLE DUTY VALVES...VACUUM REGULATORS OR BREAKERS...SIGHT FLOW BOXES...STRAINERS...SAFETY VALVES...SIRENS

135 MONROE STREET • NEWARK, N. J.

WATER

IN A NEW FIGHTING FORM CONTROLS *Even* OIL FIRES IN SECONDS!

Rockwood WaterFOG is proven in action—protecting quench and dip tanks, dryers, paint shops, transformers, electrical equipment.



A dip tank fire is simulated on Rockwood's Testing Grounds under exact, realistic conditions. The metal tank contains flaming mineral spirits frequently used in dipping operations.

WaterFOG, consisting of water particles very much finer than spray, is penetrating gently into the combustion area, robbing the fire of its heat by turning it into steam.

A second or two afterward. The combustion area is completely covered with a smothering, cooling, quenching blanket. Fire is immediately under control.

Fire is out in a few seconds! The tank has been cooled, there will be no "flash-back", water damage is restricted to a minimum.

Whatever Your Oil Fire Hazards . . . Investigate WaterFOG

WaterFOG is created by impinging streams of water from specially-designed Rockwood heads. Write for free folder today describing how WaterFOG absorbs more heat, cools wider area, prevents "flash-back" and lessens water damage.

WaterFOG is a non-conductor, too. Write for Bulletin 123.

EXECUTIVES! A moving picture film in color (16 mm.) showing tests of Rockwood WaterFOG is available.

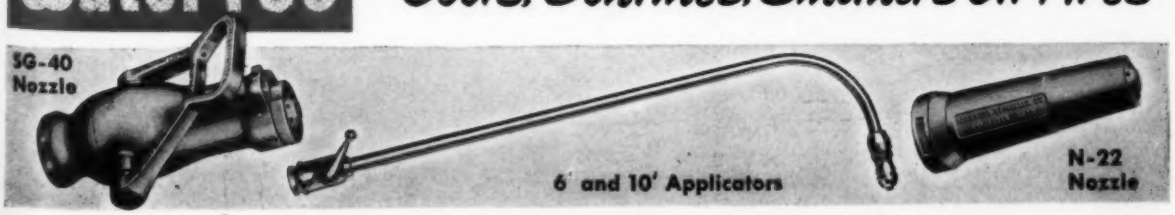
ROCKWOOD SPRINKLER CO.
54 Harlow Street, Worcester, Mass.

FIXED INSTALLATIONS OR PORTABLE

Properly installed, Rockwood WaterFOG is approved by Underwriters' Laboratories and Associated Factory Mutuals. Rockwood engineers, familiar with fire hazards peculiar to your industry, will work with you to develop the correct particle size, fog pattern, velocity and installation. Large U. S. Government demand makes high priorities necessary for prompt delivery.

ROCKWOOD WaterFOG

Water Engineered by Rockwood Cools, Confines, Smothers Oil Fires



A Protection System Can Be No Better Than Its MAINTENANCE and SUPERVISION

The following is quoted from the Standards of the National Board of Fire Underwriters for Central Station Protective Signaling Systems (Pamphlet No. 71, Section 101).

"*The general experience with all protective signaling systems is that their dependability is directly in proportion to the amount and character of maintenance, testing and supervision; also that these functions are best performed when the owner or occupant of the premises contracts for this service with an outside agency known to be qualified in the handling of central station signaling service.*"

The standards for effective protection detailed in this authoritative bulletin are not only met, but in many respects exceeded, by A.D.T. Central Station Service. From the moment of installation, performed by trained installation crews, A.D.T. assumes complete and undivided responsibility for proper maintenance and supervision. The protection equipment on the subscriber's premises is electrically connected with the Central Station. Thus, trouble conditions are detected and reported *automatically*, and corrective action is taken immediately.

In addition to this continuous electrical supervision, A.D.T. maintenance experts make periodic tests and inspections to *anticipate* possible trouble conditions, and any adjustments, repairs or replacements that may be indicated are made immediately. More than any other single factor, it is this high standard of maintenance and supervision that is responsible for the unequalled efficiency of A.D.T. Protection Services.

A.D.T. ELECTRIC PROTECTION SERVICES

Controlled Companies of **AMERICAN DISTRICT TELEGRAPH CO.** *155 Sixth Avenue, New York*

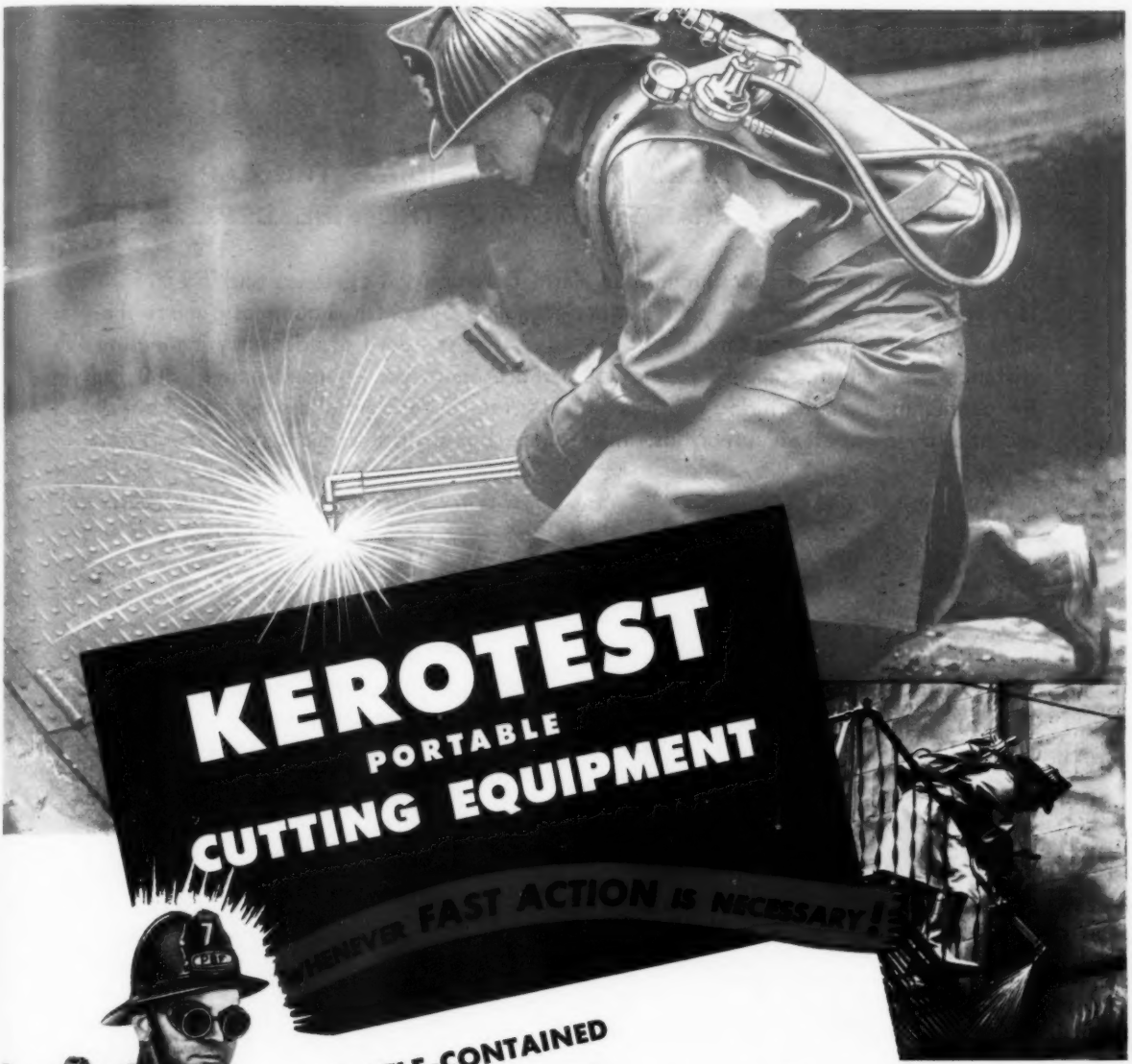
CENTRAL STATION OFFICES IN ALL PRINCIPAL CITIES OF THE UNITED STATES

A·D·T

Electric Protection Services

AGAINST FIRE · BURGLARY · HOLDUP

A NATION-WIDE ORGANIZATION



KEROTEST
PORTABLE CUTTING EQUIPMENT

WHENEVER FAST ACTION IS NECESSARY!

- SELF-CONTAINED
- EASY TO WEAR
- WEIGHS ONLY 43 POUNDS
- ABSOLUTELY SAFE

Steel barriers that threaten life and property fall away to the *Fast Action* of KEROTEST Emergency Cutting Equipment. Gets you to the fire source quickly . . . speeds rescues . . . easy to carry and easy to operate.

Patented non-back-fire torch, one piece oxygen and acetylene hose, comfortable non-inflammable waterproof carrying vest,—a steel cutting tool of real efficiency and capacity always ready for instant use. Approved by leading fire chiefs throughout the country. Be prepared for emergencies! Write for descriptive bulletin.

KERO TEST

KEROTEST MANUFACTURING CO.
2525 LIBERTY AVENUE · PITTSBURGH, PA.

BRIDGING THE GAP . . .

THE FIRE ALARM SYSTEM BRIDGES THE GAP BETWEEN THE GENERAL PUBLIC AND THE FIRE DEPA[illegible]NT

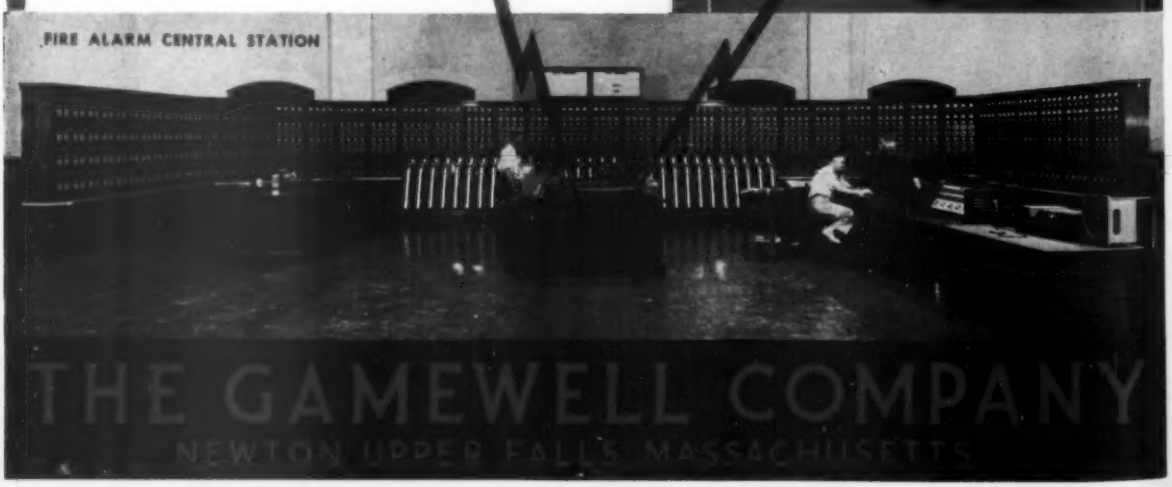
the department cannot function until an alarm denoting the existence and [illegible] is received. Protection afforded by the Signaling System is incomplete unless there is adequate box distribution throughout the city. The standard of adequacy is measured in distance from any fire hazard to the nearest fire alarm box — maximums of 300 feet in mercantile and manufacturing districts and 500 feet in residential districts are considered essential by competent authorities. Inadequate box distribution creates *Fire Waste* — an inevitable consequence of *Delayed Alarms. Plans for improvement are always in order — it is not too early to consider your Fire Protection Program now. We will cooperate freely.*

•

"There is practically no city where there are enough Fire Alarm Boxes."

— United States Chamber of Commerce.

PUBLICIZE BOX LOCATIONS AND HOW TO USE THEM.



THE GAMEWELL COMPANY

NEWTON UPPER FALLS MASSACHUSETTS

FIRE
ENGINEERING

MARCH, 1943 VOL. 96. NO. 3

With the Editor

I. A. F. C. To Convene The Board of Directors of the International Association of Fire Chiefs, in annual meeting in New York last month, voted unanimously to hold a conference of the Association this year.

We believe this to be a wise move; for many problems relating to fire protection have arisen since the last conference two years ago that require thorough discussion and study by the American fire service, which is so fully represented by the Association.

Though the last conference was called off, largely because of apprehension of enemy air attack in the months following Pearl Harbor, this hazard now appears minor. In fact, it is quite generally conceded that sustained or mass bombing is now most improbable, although token or nuisance bombing is still considered possible.

Even though such bombing may occur, danger from war industry fires is far greater, due to crowded condition of plants, green workmen, excessive storage of raw and fabricated materials, and sabotage.

It is to strengthen the defense against these latter hazards that a wartime conference of the Association is imperative at this time.

The conference will present an opportunity for heads of federal agencies concerned with protection of war production to discuss pressing problems with the entire American fire service at one time, and those agencies already contacted have expressed great interest in this unusual opportunity.

Of necessity, the Conference will have to be devoted entirely to business, for the many urgent problems in fire defense will brook no interruption by recreation.

Much good will result from the conference. A splendid, timely program has already been outlined and a large attendance seems assured.

Double Jacket Hose Restricted A restriction order recently issued by the War Production Board prohibits the manufacture of double jacket fire hose for municipal fire departments. This order resulted from the necessity of manufacturing tremendous quantities of hose this year for Army, Navy, Lend-Lease and for other use abroad. There is insufficient loom capacity in this country to produce the millions of feet of hose required if much of it is to be double jacket, for it requires twice as long for a loom to produce a section of double jacket hose as it requires to make a section of single jacket.

The order is designed to make many cities, which have heretofore purchased only double jacket hose, use single jacket hose instead.

However, if a city cannot use the single jacket but must have double jacket hose, an appeal can be filed and the manufacture of the double jacket may be authorized.

To simplify the process of filing an appeal, the International Association of Fire Chiefs recently prepared and sent to fire departments a questionnaire designed to secure such information as might be needed by the War Production Board for determining the need of a fire department for double jacket hose. This questionnaire, properly filled in, is to be attached to priority form PD-1A when asking for priority for double jacket hose. The questionnaire will serve as an automatic appeal for double jacket hose when the PD-1A application is initially denied.

This short cut should save time and annoyance for fire department officials; it is a good example of how the Association is now cooperating in the interests of both fire departments and governmental bureaus.

Fred Sheppard

The British Fire Service

As seen by an American

By FRED K. SHIRK*

Twelve-Inch Supply Pipes, Which Can Feed Various Tanks from the River, Crossing a Blitzed Area

THE following notes are my impressions of the National Fire Service of England, Scotland, Wales and North Ireland. This report is based upon my association with firemen in towns and cities of South England during the past few months. Due to my military operations I am only able to make occasional contacts with the fire service. However, I have been fortunate enough to obtain some valuable data from a city with a population of over 350,000 people, and much of this information is based upon that association.

During peacetime the English Fire Service was composed of both paid and volunteer brigades organized within the political sub-divisions of the country much the same as in the United States, except that the English Brigades are much smaller than one of our departments protecting a similar area. As an example, the brigade protecting a city of 350,000 people having an extensive dock area, consisted of about eighty-five officers and men working two shifts and housed in three stations.

Organization of the N. F. S.

In 1938 an Auxiliary Fire Service (entirely volunteer) was formed with the idea of augmenting the regular fire brigades. At the outbreak of war this became a Civil Defense Service with approximately two-thirds paid workers and one-third volunteers. The paid workers were on duty twenty-four hours and off twenty-four hours, while the volunteers usually worked twelve hours a week (spending one night at the fire station).

This organization bore up during the "blitzes" but it was found that owing to there being no unified system, wrongly equipped pumps and badly trained crews, cooperation between brigades when reinforcements were needed in blitzed areas was unsatisfactory. In addition, short-sighted town and boro councils frequently refused the government's offer of static water tanks, extra appliances, etc.

Obviously standardization under strict and direct government supervision was needed and in August, 1941, the National Fire Service came into existence combining all the paid, volunteer and auxiliary fire services then existing in England, Scotland, Wales and Northern Ireland. The Island was divided into twelve regions under the Home Office, North Ireland forming the thirteenth region. These regions are divided into several fire forces, which in turn are made up of several divisions, the division being the principal unit for mobilization and administration.

A heavily populated urban area may be protected by several divisions under a Chief Division, while a largely rural area extending over many square miles may be protected by just one division. The Fire Force Formations (a Fire Force consisting of several divisions) are shown in the following table, giving the number of pumps normally assigned (the total regular and emergency or reserve pumps is indicated in the brackets), and the title of the commanding officer.

Division	100 pumps (total 120)	Division Officer
Column	50 pumps (total 60)	Column Officer
Company	10 pumps (total 12)	Company Officer
Section	5 pumps (total 6)	Section Leader
	1 pump	Leading Fireman

The large city mentioned previously is now protected by three divisions with 2,100 full and part-time firemen working forty-eight hours on and twenty-four hours off.

Alarm System

In the large city visited, a public police telephone system is now used. A person wishing to call the police, fire brigade or an ambulance, opens the door of a street box, which is connected directly to the police headquarters, and informs the operator of the nature of the emergency, or enters a public telephone booth and dials "O," the operator putting the call through to the Fire Control Office free of charge. The same procedure would be followed in using a private telephone. If there is a fire, the police operator informs the Mobilization Office, as the alarm headquarters is known, and apparatus is dispatched, the type and number depending upon the nature of the fire and the hazards of the section in which the blaze is reported.

In the case of a blitz the system is decentralized, each station being responsible for the dispatching of its equipment (up to ten pumps) in the most expeditious manner. The station then informs the sub-division of the number of pumps available (still on hand), the number of pumps at fires, and if aid is needed, the number of pumps required. The sub-division consolidates the information received from the stations under its control, makes any moves (dispatching apparatus) that are necessary and that it has the power to do, and in-

*Captain, U. S. Army, now serving in North Africa.

forms the division mobilization office. Each unit consolidates the information it receives and orders cover-up moves or reinforcements to the subunit requesting aid, and then forwards the information concerning the pumps available, pumps at fires, and pumps required on up the line to the Fire Force Headquarters, who in turn report to the Regional Headquarters who informs the Home Office.

No running cards are used, the Mobilization Offices dispatching what apparatus it has available and if more is needed, requesting it from the next higher unit. Locations of fires are not given except for those which require five or more pumps. Turntable ladders, foam wagons, canteen wagons, and other special apparatus are dispatched as requested.

Dispatch riders on motorcycles respond to all fires and are used to maintain communication with higher headquarters in case of the destruction of the normal means of communication. They also scout the roads ahead of the heavy duty, self-propelled apparatus to make sure such roads are passable, and if they are blocked they determine alternate routes for the apparatus to follow.

Water Supply

The normal street water mains have been supplemented by mains laid on the surface. However, it has been the experience of the fire service that both normal and supplementary water mains have been fractured and the water supply system disrupted during bombings. The feeling exists that the most disastrous blitzes are the result of the failure of the water supply. One southeast coast city, after having gone through a heavy bombing and having a portion of the city burned out after the water mains were broken, laid supplementary mains and hose lines all the next day. That night another raid knocked out this defense also, and a subsequent blitz destroyed another portion of the city.

Reliance is now placed upon the emergency water supply system, which consists of a number of static water supply points holding from 5,000 to over 100,000 gallons of water, and the development of suitable places for drafting unlimited supplies of water to refill these tanks. Emergency water supply tanks, built of brick or steel, are located in all cities and towns. They are kept full of water and can be found every few hundred yards. As a result there is always a handy source of supply from which the trailer pumps may draft water. Some of the tanks have water main connections, and can be refilled from the normal or supplementary water systems, if the systems are still working.

The replenishment of water supplies during an emergency is considered of utmost importance. Information is kept at mobilization offices to enable the personnel there to know where the nearest large or unlimited supply may be obtained and the apparatus required to pump the water to the emergency water supply tank that is being used. Sufficient self-propelled, heavy-duty pumping engines are immediately dispatched to the scene to insure that the emergency water supply tank will be adequately supplied with water to feed whatever number of trailer pumps that may have need to draft water from it.

Hose lines are subject to destruction by bombs, although not as susceptible to fracture as are water mains, and may have to be replaced. One officer told me that their lines were destroyed three times in an effort to relay water after the mains had been broken.

The National Fire Service is a big forward step—eliminating political boundaries and assuring mutual aid in case of an emergency. Drill and training standards have been established and apparatus has been standardized. The many departments in the United States could profit much by such consolidations. Some such actions have been taken, as in Westchester County, New York, but there is much that can be accomplished along these lines.

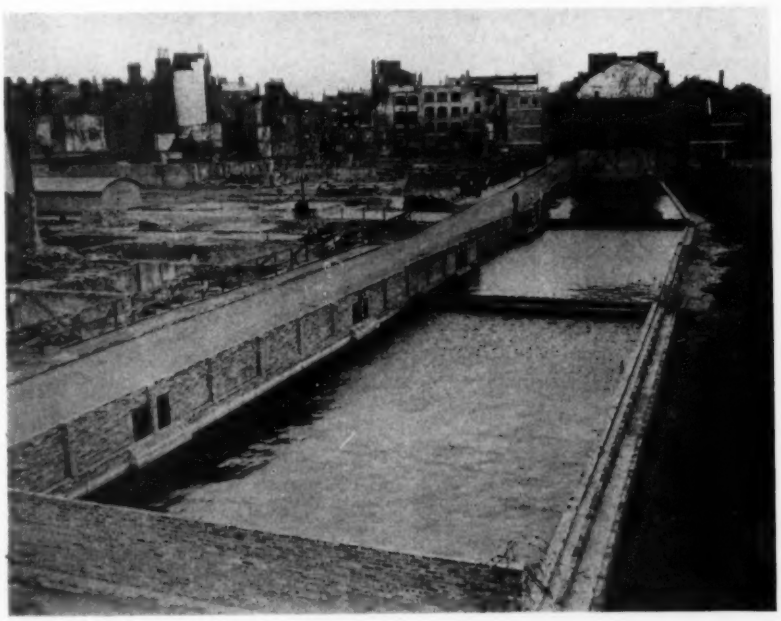
Fire Apparatus in Service

The principal apparatus of the N. F. S., and the one upon which the organization is based, is the pump. These may be self-propelled, heavy-duty combination engines similar to ours, or the smaller trailer pumps pulled by an automobile or truck. For work during a blitz the trailer is used extensively on the fire grounds, as it has the advantage of maneuverability. It can be moved by hand through streets blocked by debris, and can assure a satisfactory fire stream or two by drafting water from an emergency water supply tank. The heavy-duty pumps are normally used for relaying water.

Hose lorries are used to supply the lines for relay work. Normally the pumps do not carry much hose, possibly ten rolls of 2½-inch line with snap couplings. The hose lorries carry lines with the sections already coupled and flaked, similar to our method of carrying hose.

There are quite a number of foam cars carrying both pack and in-line injectors. Foam chemicals are carried in two-gallon cans (shaped like oil cans). I am informed that the British are very pleased with the re-

(*Continued on page* 148)



A 500,000 Gallon Tank in the Ruins of Historic Bunhill Row, London

Practical Training for Auxiliary Firemen

By FRED SHEPPERD
Editor, FIRE ENGINEERING

IN this installment of the series of articles on "Practical Training for Auxiliary Firemen" are discussed the care of fire hose and hose line equipment.

Q. What effect has gasoline on fire hose?

A. If gasoline gets on a fire hose jacket, it works its way through and dissolves the cement which holds the lining to the jacket and the lining may soon become free. Upon use of the hose thereafter, the lining may separate and jam, or may become free and cram down in one end of the hose, causing either partial or full stoppage, or the lining may tear apart. Not only does gas dissolve the cement in the hose and permit the separation of the jacket and lining, but it also acts on the rubber of the lining directly and causes rapid deterioration. It should be remembered that gasoline is an excellent solvent for rubber. Hence serious damage to the lining may be quickly done upon exposure to gasoline.

Q. Are oils and greases destructive to hose, and, if so, to what extent?

A. Oils and greases have varying effects on fire hose, depending upon their composition and fluidity. Thin oils and greases which go readily through the jacket are more serious than the thicker oils and greases which are inclined to stay on the outside of the jacket. Almost any of the oils which come in contact with the rubber lining tend to destroy this lining. Once they get through the jacket and reach the lining, they remain there and do their damaging work.

Q. In what way may acids damage fire hose?

A. Even a very weak solution of sulphuric acid, as well as many other acids, will do irreparable damage to the cotton jacket of fire hose. Acid damage is unmistakable. Where there is a damaged spot on the surface of the jacket it is a very simple matter to determine positively whether or not acid is responsible for it. Some acids will brown the hose jacket instantly, while others merely cause the fibre in the jacket to take a powder form. It is sometimes not possible to visually determine which acid has injured the hose, but there should be no question as to whether or not it is acid which has done the damage. The acid itself will destroy the jacket but not the lining, as in the case of gas and oils. If spots are found on the hose, which on being rubbed, give off a powder form of cotton, and which show actually no strength of fibre it is safe to assume that acid has been present. A simple test to determine whether acid has done the damage or not is to taste a bit of the powder rubbed off the hose. If this has a sour or tart taste it is acid. Of course, no attempt should be made at such a test until after hose has stood for some time and the acid has used its energy in eating away the jacket.

Q. What protective measures should be taken in fire hose that has been exposed to acid?

A. The hose should be washed off thoroughly after exposure to acid or fumes. A good grade of washing soap may be used in connection with this operation. The alkali in the soap will neutralize any acid which remains. After washing, the hose should be scrubbed thoroughly.

Q. What care should be given to fire hose when it is not in use?

A. Most hose "ages out" rather than wears out in service. This is due to the nature of the materials of which it is made. The cotton jacket deteriorates due to mildew. If hose is stowed away with wet jacket and permitted to remain in this manner, mildew soon forms unless the hose is well ventilated, or the jacket especially treated to resist mildew. If mildew forms, it saps the strength of the material on which it forms. Thus cotton jackets of hose, when mildewed, lose in strength and in reality, decompose. The only way to prevent mildew is to thoroughly dry the hose and keep it in that condition when stored, or keep it thoroughly ventilated in case the atmosphere is moist. To prevent rapid aging of hose, it should not be permitted to stand near heating pipes or other sources of heat. The rubber lining should be flushed out periodically, that is, once a month, and the packet dried immediately after this operation.

The hose should be changed in its position on the apparatus periodically to prevent any permanent kinks forming in the lining, which would eventually cause cracks at these points.

Keep the jacket of hose clean by careful cleaning after each use. After the cleaning has been accomplished, hose should be placed on drying racks to make sure that the jacket dries quickly and thoroughly.

Hose Line Equipment

Q. What are hose couplings?

A. Hose couplings are brass devices (malleable iron is now being used for manufacture of these couplings "for the duration"), the purpose of which is to link sections of hose together.

Q. Why must couplings be used?

A. If it were not for hose couplings, the use of fire hose would be very difficult, for it would be necessary to stretch all of the hose in the form of a single line at each fire. Fire hose is made in 50-foot sections in this country (100-foot sections in England) and if a line longer than 50 feet is required, two or more sections are coupled together. Incidentally, it would be extremely difficult to build long lines of hose, for the jackets are made first and the linings inserted and cemented afterward. This operation alone would be fraught with tremendous difficulties if the lines were of great length. Furthermore, the lining are made in the form of tubes and then cured in an oven. It would require a tremendously long oven, as well as

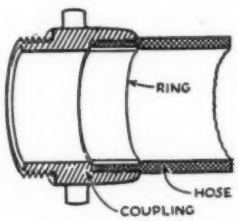
lengthy mandrels, to make long stretches of hose.

Q. What different types of hose couplings are there?

A. In general, two types, namely screw couplings and snap couplings, but of each there are several different types. With the screw couplings, they may be pin lug or rocker lug. Or there may be couplings having different threads such as the National Standard, New York Standard, etc.

Q. How are couplings attached to hose?

A. Couplings are attached to

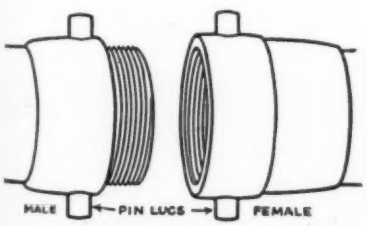


Cross-Section of Coupling Showing Method of Attachment to Hose by Use of Expansion Ring

hose by inserting the end of the hose in the coupling, and expanding a brass ring within the hose and forcing the hose tightly against the inside of coupling. As the inside of coupling is finished with ridges, a firm grip is provided on the hose by the pressure of the ring against the inside of the hose.

Q. What is a pin lug coupling?

A. A pin lug coupling is a coupling fitted with cylindrical pins on

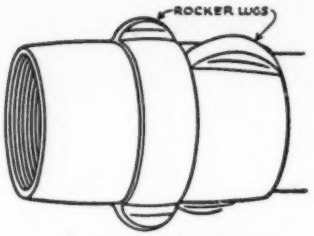


PIN LUG COUPLING

both the male and female part of the coupling, to provide a means of tightening or unscrewing the main coupling when connections are being coupled. As in all types of screw couplings, the section containing the male threads is stationery while that containing the female thread is swiveled and readily rotated when being coupled.

Q. What is a rocker lug coupling?

A. A rocker lug coupling is the same as a pin lug coupling except instead of having pins on which the



ROCKER LUG COUPLING

coupling wrenches (spanners) may be placed when tightening the connection, the lugs take the form of semi-circular ears or lugs. These lugs are designed to prevent catching on obstructions when the hose is being snaked into a fire. A recent development along this line is a non-fouling coupling which provides, in place of the pins, two small spheres firmly attached to the male and female sections of the coupling respectively. These ears are protected by guards on either side, to prevent catching on obstructions when the hose is being dragged into a building.

Q. What is a double male coupling?

A. A double male coupling is a short coupling fitted with male threads on both ends.

Q. What is the purpose of the double male coupling?

A. To connect the female ends of the two lengths of hose together.

Q. What is a double female coupling?

A. A double female coupling is a coupling having female threads on both sides. The coupling is swiveled so that either end may be screwed onto a male coupling. This coupling is used for connecting two male ends with identical threads.

Q. What is an adapter coupling?

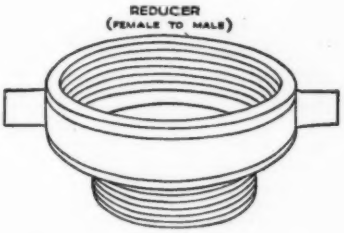
A. An adapter coupling is a coupling used to connect the male end of one thread to a female end of a different thread. Such adapters are widely used where fire departments having different hose couplings are cooperating with each other. To connect two hose lines of different threads together, the adapter coupling is necessary.

Q. What is a reducing coupling?

A. A reducing coupling is a coupling fitted with a large female coupling and a smaller male coupling.

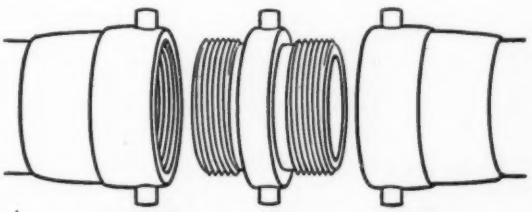
Q. What is the purpose of the reducing coupling?

A. To couple a line of hose to another line having a smaller coupling, such as 3" hose to 2½" hose, or connecting a larger outlet of a hydrant or pumper to a smaller hose connection.



Q. What types of reducing couplings are commonly found in the fire service?

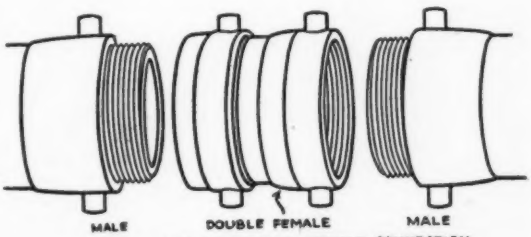
A. The ordinary reducer adapter coupling, or male-female coupling, double male coupling and double female coupling.



DOUBLE MALE CONNECTION

Q. What is the purpose of each?

A. The male and female reducing coupling is used as described



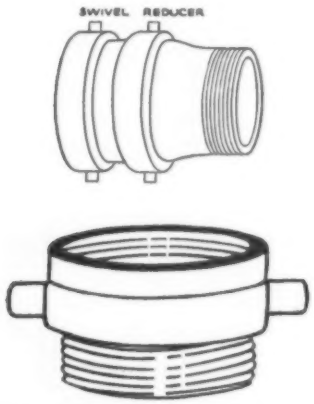
SHOWING USE OF DOUBLE FEMALE CONNECTION

above. The double male coupling is used to connect the female end of a large line of hose to the female end of a smaller line; a double female coupling is used to connect a larger male coupling to a smaller male coupling.

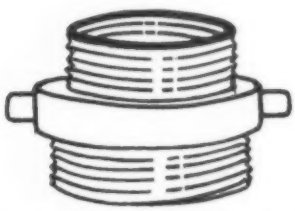
Q. What is a hydrant suction

coupling, and for what is it used?

A. A hydrant suction coupling is a double female coupling used to connect suction hose to the

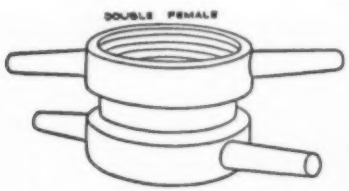


Adapter Coupling Used to Connect a Male End of One Thread to a Female End of a Different Thread



Double Male Reducing Coupling Used to Connect a Female End of One Thread to a Female End of a Smaller or Different Thread

steamer connection of a hydrant. As the suction hose on a pumper is male on one end and female on the other, and as the female end is normally used to connect to the



Hydrant Suction Coupling

pumper, the double female coupling must be used on the other end to provide a connection for the male outlet on the hydrant.

National Fire Waste Council to Meet

The Twentieth Annual Meeting of the National Fire Waste Council will be held on Friday, April 2, starting at 9:15 a. m., in the Board of Directors' Room of the Chamber of Commerce of the United States of America, Washington, D. C.

Fire Fought in Sub-Zero Weather

Termed the most disastrous fire in forty years, a $150,000 blaze destroyed a three-story block in the business section of Potsdam, New York, on December 18, 1942, and threatened other buildings before it was brought under control by the combined efforts of four fire departments.

Of unknown origin, the blaze was discovered by a patrolman shortly after five o'clock in the morning. He immediately pulled box 25 and upon arrival of Potsdam fire department, the box was sounded again, followed by two general alarms.

The fire, apparently burning for some time before it was noticed, had gained considerable headway and the building was doomed from the first. Chief James J. Doyle, Jr., summoned additional aid from the neighboring villages of Canton, Norwood and the Racquette River Paper company. Raging out of control, the flames broke through the roof and shot 40 feet or higher into the air as firemen tried in vain to get the fire under control. By mid-morning the worst was over but weary fire fighters manned hose lines until eight o'clock the following morning. In the late afternoon a contingent of firemen from the Massena department arrived at the scene to take over some of the lines. During the 27 hours firemen were at the scene, the mercury ranged from 10 to 35 degrees below zero and water froze nearly as fast as it came out of hose lines. Ice several feet thick encrusted the burned building and a pyramid of ice, two stories high, was formed over night.

At the height of the fire six pumpers were pouring tons of water onto the fire, two of them drawing water from the nearby Racquette river, while the others were in operation at hydrants. During the most serious stages of the blaze, another alarm took firemen to a house fire in Washington street which resulted in $1,000 damage. The Canton pumper, dispatched to the scene, froze up enroute, and the Potsdam No. 2 pumper ended up in the same manner due to the intense cold. The fire was controlled with a hydrant line. Norwood firemen, who responded with two pumpers and were covered by Norfolk which moved a pumper into the former village, saved a bakery truck which caught on fire a short distance from where their apparatus was working.

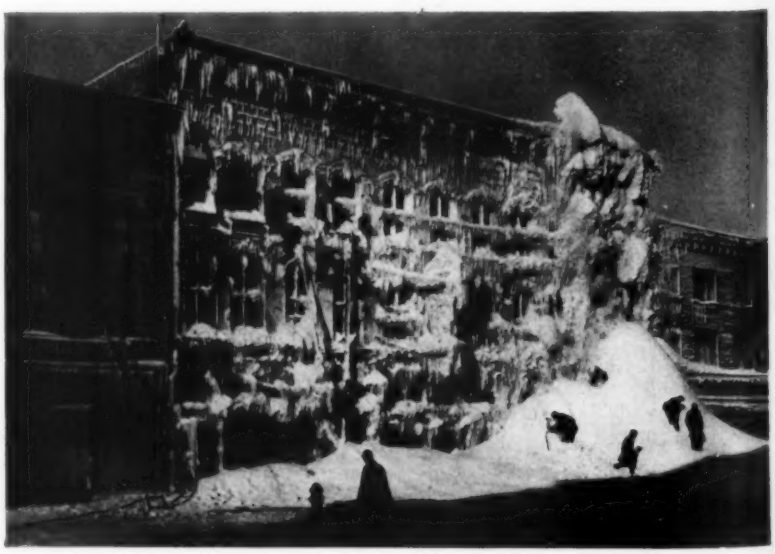
Eight pieces of apparatus were on the scene as well as nearly 125 firemen, who were aided by scores of civilian defense workers and Red Cross members. The B. O. Kinney Drug company occupied a double store in the south end of the block and the National Army store was located in the northern portion. Stocks of both stores, well equipped because of the Christmas period, were a complete loss. Apartments on the second and third floors were entirely burned out.

SANFORD D. DEWEY.

Kentucky Firemen to Meet

The Educational Committee of the Kentucky Firemen's Association met in Lexington on January 29, to discuss plans for their annual convention and for their annual firemen's training school for this year. In addition to the members of the committee there were present Mr. Frank McNea, Regional Director Fire Defense, Office of Civilian Defense, Cleveland, Ohio; Mr. A. Clemens, Fire Department Engineer, Kentucky Actuarial Bureau, Louisville; Professor E. N. May, Teacher-Trainer, University of Kentucky, and D. R. Peel, State Fire Marshal, Frankfort, Ky.

It was unanimously agreed that a week's training school for firemen and civilian defense auxiliary firemen would be held in Owensboro, Kentucky, the week of August 24-27. This school is to be sponsored by the Association, the Office of Civilian Defense, the State Fire Marshal's Office and the Vocational Division of the State Department of Education. The Association will hold its business meetings in Owensboro during that week.



Sub-Zero Weather Turned the Remains of This Business Block Into a Pyramid of Ice

SMALL AIRPLANE PLANTS NEED ASSISTANCE OF FIRE SERVICE

Municipal Fire Departments Asked to Cooperate with Plant Fire Brigades

Major Donald Holbrook, Army Air Corps

IF you have not seen some of these great airplane manufacturing plants when passing by on a train or from the doubtful vantage point of an automobile dividing your attention between the drama of the industrial scenery and your shrinking number of ration coupons, in the words of the itinerate observer, "you ain't seen nothin'."

To really visualize the expanding operations represented by these War behemoths, you must also conjure up the thousands of smaller plants feeding their insatiable hunger for supplies, parts, and sub-assemblies that consume themselves in steadily increasing output, lifting our airplane production program to higher and higher levels of achievement.

Some of the larger plants are within or close to municipal areas and most of the subcontracting plants are within city limits. Therefore, if an emergency, such as a serious fire, overtaxes the protective resources of these plants, municipal services must be provided, and that, quickly.

In the case of smaller plants, often hastily converted from peace-time pursuits to wartime uses, for which such plants were rarely originally designed, municipal fire services must be a first consideration before as well as after the emergency arises.

The loss of a small plant through fire will delay production often as successfully as injury from the same cause to some of the large ones.

Large Government-financed and privately-owned plants have developed their own fire protection to a high degree of efficiency. Carefully trained fire brigades, headed by professional fire officers are in the best position to handle fires occurring in their plants, except those of runaway proportions. Nevertheless, such fire brigades should not acquire an overconfidence that would bring about a reluctance to avail themselves properly of the cooperative assistance and experience of public fire departments.

Small Plants Poorly Equipped

The smaller plants can not justify an adequately equipped fire brigade and even if the intent is to acquire satisfactory first-aid fire protection and fire-fighting equipment, the restriction of limited supply and priority ratings makes such accomplishment doubtful.

We find, therefore, that the substantial increases in the use of fire protective equipment in the airplane industry is offset by the enormity of production and storage facilities. Now, as never before, the need for cooperative efforts between public fire officials and plant protection authority, charged with similar responsibility, is urgent.

For the first time in such numbers, and involving such grave responsibilities, professional fire departments are asked to work on fire-fighting problems with personnel and responsible authority having little, if any, background of municipal fire-fighting service. Plant-protection officials welcome the advice, aid, and knowledge of the professional fire service, but it should also be realized that these plant-protection officials often have an especial knowledge of the fire-fighting problems which go with the hazards of airplane manufacture. The municipal fireman has not had the same occasion to be indoctrinated in this phase of fire protection.

A once oft-repeated phrase, "a fire is a fire, and only a professional fireman can cope with it," has proved as much flapdoodle as a similar assertion which used to be applied in the language of industrial business before the advent of efficiency experts and management engineers.

Historically, professional services, whether municipal, federal, or private, have resented an outside viewpoint. "You have to grow up in the business to be competent in any line of activity" has always been the cry of the reactionary. Today, however, one must grow up in the business to be flexible enough to understand and apply the new techniques, or at least to be willing to listen to those whose viewpoint is based on trained appreciation of today's wartime mode of operation.

The experience, knowledge and courageous spirit of the professional fire services is recognized and appreciated by the Internal Security Section, Army Air Forces, in connection with the vital responsibility of safeguarding airplane production. This Section welcomes every assistance and suggestion which may be made by responsible authority in public city fire departments. An opportunity is presented to the various agencies involved in fire protection to learn from each other and through collaboration accomplish a united front made particularly necessary by an all out War effort and the vital importance of our airplane program.

*Major Holbrook is District Fire Protection Officer, Midwestern Procurement District, Army Air Forces, and Chief, Fire Protection Branch, Internal Security Section.

Two Jacksonville Buildings Burn

The worst fire since the Clyde Steamship Line Docks burned in 1941 destroyed two large waterfront warehouses in Jacksonville, Fla., and threatened the entire area before it was brought under control after three hours by every available fire fighting unit. One Coast Guardsman received a broken leg when a flame-weakened ramp collapsed, a soldier sustained head and shoulder injuries when a piece of roofing fell on him, and several firemen had minor hurts.

Two Atlantic Coast Line warehouses, one housing the Jacksonville Crate Company, the other used by the Valvoline Oil Company as a storage depot were destroyed.

Some 20,000 Pounds of Magnesium Burned in This Los Angeles Fire

On the January cover of FIRE ENGINEERING a picture was published of a fire in a wholesale grocery store in Los Angeles, Calif. Chief Alderson informs us that such a fire never occurred in his city, but might have occurred in the area of Los Angeles. He substitutes the above picture of a fire involving magnesium which occurred around the same time as the former fire.

SHIPYARD HAS STRONG DEFENSE AGAINST THE HAZARDS OF FIRE

Officers and Men of Marinship Department Have Extensive Fire Fighting Experience

By Bob Greenock

EVERYONE knows that one of the most important adjuncts of a war industry such as that of the Marinship yard of the W. A. Bechtel Company at Sausalito, California, is a top notch fire department.

Located in a war zone, working at top speed with thousands of men and women and with the majority of structures, both large and small, throughout the yard built of wood and the employment of wood in many phases of shipbuilding itself, it is most essential that adequate protection be afforded.

When the Marinship fire department reaches its full strength, there will be 150 men employed as inspectors, station men and fire watchers.

Headquarters for the Fire and Police Departments at the Marinship Yard in Sausalito Are Located in the Plant Protection Building, Which Also Houses a Complete Hospital Unit. At the Left Is the Fire House

Experienced Men Head Up Department

Captain H. H. Spomer, executive head of the plant protection department, has endeavored to bring men to Marinship who have had extensive fire fighting experience and in this he has been very successful.

Chief Carl E. Olson, for instance, is the former chief of the Tulare, Calif., fire department, and one of Olson's aides, John B. Wilker, equipment engineer, was a member of the Tulare department; J. N. Jepson, ex-chief of the St. Helen, Washington, department; J. L. Johnson, formerly with the Stockton, Calif., fire department; Eldon Raines, who was a driver in the Stockton department, and Adolph Henrick, who was fire chief at Ukiah, Calif., are other key men in the Marinship department.

Chief Olson has had more than twenty-five years of active fire department work and has been a member of the California State Firemen's Association since the inception of that organization. Wilker has had thirteen years' experience, Jepson and Henrick about fourteen years each, Raines about nine and Johnson seven years.

Principal fire fighting equipment at Marinship consists of two centrifugal pumps, each mounted on a chassis. The pumps each have a capacity of 500 gallons per minute. Each truck carries a 350-gallon water tank, booster pump, two reels of ¾-inch hose, each reel holding 150 feet. In addition, each pumper carries 1,250 feet of 2½-inch hose and 200 feet of 1½-inch hose.

Most unusual piece of equipment in the yard is a 300-gallon pump connected to a motor and mounted on a Ford chassis. The pumper is custom built and was designed by Captain Spomer. He observed that most shipyards use 2-wheeled trailer-type portable pumps which can only be taken on the gantry piers alongside of the hulls. He devised a portable pump mounted on two skids, held firmly in place to keep the unit from slipping around. A gantry crane merely hooks on to a clevice and hoists the unit to any position aboard ship. A test showed that the unit can be lowered into the hold of a ship in two minutes flat.

Portable Pumping Units Used

Hose is always ready on this portable pump and it will operate eighteen minutes without any other water supply, for it carries a 150-gallon water tank and has a reel of 150 feet of ¾-inch hose, as well as 200 feet of 1-inch high pressure wet hose.

The Ansul Chemical Company of Modesto, California, is manufacturing this new type of portable pump and

Captain H. H. Spomer, Chief of Marinship Plant Protection, Congratulates Chief Carl E. Olson on Marinship's New Fire Trucks While John Wilker, Equipment Engineer, and Robert A. Nail, Assistant to Chief Olson, Also Beam Their Pleasure

there are some fourteen in use by various fire departments.

Fire nozzles have been standardized and the fog nozzle employed is adjustable and can be used for either straight stream or fog.

Hydrants are located on the shipways and under the ways, on and under the outfitting docks and at strategic points from one end of the mile-long yard to the other. There is a pressure of 110 pounds in the yard, sufficient for house lines.

Marin County's fresh water is supplied from artificial lakes in the nearby mountain area. In the event of air raids which might damage the water lines and disrupt service, six skid units placed throughout the yard can be brought into immediate play. These compact, easily moved units pump directly out of Richardson Bay and will furnish 3,600 gallons of water a minute. Tests have shown the pumps will draft as much as twenty-six feet from the channel.

All alarms are handled through a dispatcher's desk in the plant protection building which houses not only the fire and police departments but a complete hospital unit as well.

Part of the dispatcher's equipment is a pressure gauge which shows the pressure in the mains and safeguards against the possibility of finding a broken main and losing valuable time in event of a fire.

Fire Prevention and Air Raid Precautions Work

The biggest job so far has been the work of fire prevention. There are regular fire drills and a system has been worked out in anticipation of possible bombing forays under which the trucks would be scattered in the yard so a bomb striking the fire house would not destroy all of the equipment.

Regulation uniforms have been designed for the firemen and Marinship management has supplied slickers, boots and rain hats for rainy days. Gas masks are also a standard piece of equipment.

Should Marinship need aid, there are many small towns nearby in Marin County and just north of the Golden Gate Bridge, which could give aid. Marinship is located just north of Sausalito and is about ten miles from downtown San Francisco.

TRAINING OF RESCUE SQUADS DEVELOPS EFFICIENT WORK

Clear Knowledge of Breathing Operations as well As Causes of Suspended Breathing Must be Known

By Homer B. Morris
Fire Chief, Celanese Corporation of America, Narrows, Va.

WITH millions of employees working and the danger of accidents increasing, the value of resuscitation is of prime importance in industry today. Manufacturers of manual and mechanical breathing machines are busy day and night delivering these valuable life savers to war industries where the threat of suspended breathing is increasing daily.

Many automatic self-adjusting breathing machines with a three-fold feature are on the market, namely, resuscitator, aspirator and inhalator. The inhalator attachment of the machine is used with the manual method of artificial respiration. This is where the knowledge of the Schafer Prone Pressure Method acts as a "safety valve" for the automatic breathing machine.

In training life saving squads whose job it is to answer quickly all calls where the patient has been a victim of electric shock, drowning or asphyxiation, a clear knowledge of breathing must be known.

Suspended breathing can be the result of electric shock; drowning; a blow on the head, neck or solar plexus; hanging; gas poisoning, smoke, chemical vapors, acid gases, etc.

Causes of Suspended Breathing

In cases of drowning and hanging, the victim's breathing stopped from lack of oxygen with an over-increase of carbon dioxide. In electric shock and a blow on the head, neck or solar plexus breathing was stopped by paralysis of the breathing center, while in gas poisoning, etc., breathing stopped from a saturation of gas in the blood.

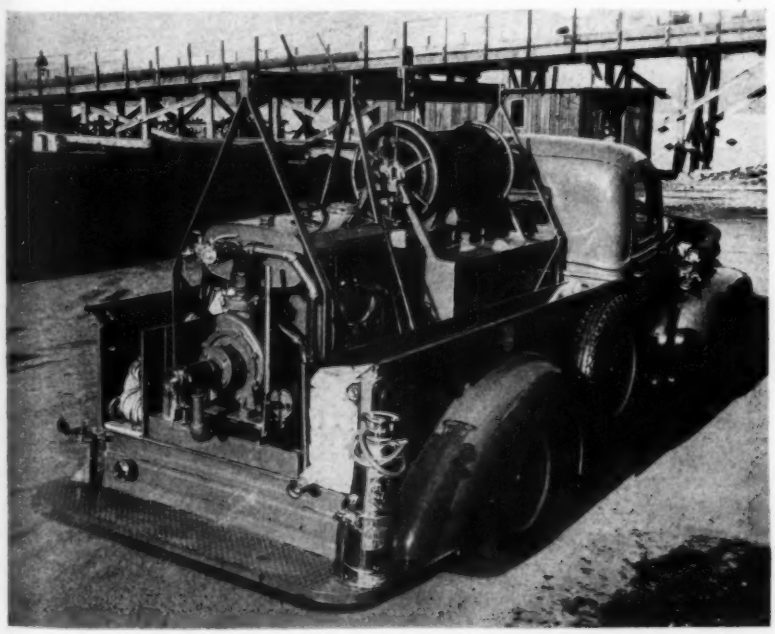
The location of the victim will indicate the type of suspended breathing. If he is near water, it is likely to be a case of drowning; electrical installation, breathing was stopped by current; in a closed garage, gas poisoning, etc.

One of the most common causes of suspended breathing is charged to carbon monoxide (CO). As little as 0.02 per cent of CO will cause sickness, and 0.2 per cent can cause unconsciousness in twenty to thirty minutes. Two per cent will kill in three to six minutes.

In CO poisoning, asphyxiation takes place mainly because the hemoglobin of the blood corpuscles picks up the CO three hundred times quicker than oxygen. You can readily see how the blood becomes saturated so quickly that death soon occurs if this poison is not displaced from the blood at once.

The life saving crew going to work must inject into the blood stream through the lungs a high concentration of Carbogen (ninety-three per cent oxygen and seven per cent carbon dioxide). Our normal supply of oxygen is 20.94 per cent, so the adding of seventy-six per cent more speeds up the displacement time of the poison gas. The seven per cent carbon dioxide acts as a stimulant for the breathing center and when this poison has been driven from the blood, the respiratory system begins to function under its own power and normal breathing is once more resumed.

In the case of electric shock, breathing is suspended because the breathing center was temporarily paralyzed from the shock passing through every nerve in the victim's body. There was no lack of normal oxygen (20.9 per cent) or carbon dioxide (.03 per cent), but this



Marinship Truck with Portable Body Unit

paralysis stopped breathing because the center could no longer send out impulses to the various movements of respiration. The seven per cent carbon dioxide in the Carbogen, by way of the breathing machine to the victim, stimulates the breathing center quickly and breathing is voluntarily resumed.

The question has been asked, "Just how does the oxygen enter the blood stream?" The air enters the windpipe and on down to where the windpipe divides into two lines, one going to each lung. The main air passages divide and sub-divide, getting smaller and smaller each time it sub-divides until it reaches the thin-walled aerating cells, where the oxygen passes through thin membranes. The oxygen is now in the blood stream. The returning carbon dioxide is expelled through this same method by exhalation. The interchanging of the incoming oxygen and outgoing carbon dioxide is referred to as "osmosis" action. This action takes place constantly through inhalation and exhalation. While this transfer is being made the nitrogen content of the air (78.05 per cent) is keeping the respiratory tract cool as it plays no part in the support of life, but is used as an inert part to make up the volume of 100 per cent air. Nitrogen cannot pass through the aerating cells.

Many people have died from inhaling large amounts of smoke. Remember that when smoke is inhaled there is a certain amount of carbon monoxide present; also remember that little or no oxygen is in the smoke content as the fire has used up the oxygen and the fire is also suffering the same as you from lack of oxygen. The smoke is so irritating that a person is unable to get the oxygen down to the lungs as the smoke goes with it. The small amount of oxygen never reaches the aerating cells due to the person coughing so violently that strangulation and suspended breathing occurs. This rule holds true in chemical vapors and acid gases.

In the case of drowning little or no water enters the lungs because the pressure of the air in the lungs does not permit the water to get any farther than the main air passages. The water in these passages can be drained by lowering the head of the victim. What really brings on death is that the person is submerged in the water. He gets no oxygen and the excess of carbon dioxide in the blood brings on death.

In treating a case of suspended breathing, care must be taken to do the job right. Remember the victim is helpless. If in treating for shock the heat applications are too hot, you will burn him. Too much pressure on the diaphragm, irregular rhythm, and many other errors can cause you to lose your patient just when you are about to win the battle.

TANKS OF HIGH OCTANE GASOLINE CAUSE HOT FIRE IN TRAIN WRECK

Small Number of Men and Two Pumpers Stopped Fire Which Endangered Residential District

LESS than a score of firemen with two pumpers stopped a fire fed by 40,000 gallons of high-octane gasoline as flames lapped at a train of thirty tank cars of the highly inflammable fluid the night of January 22 in the heart of Tiffin, an Ohio city of 18,000 population.

Derailment of a Baltimore & Ohio freight train touched off the spark which sent five tank cars of gasoline into flames at the Clinton Avenue crossing in the midst of a congested residence district.

Flames reached hundreds of feet heavenward as tank after tank was blasted open by the heat, spilling streams of burning liquid over the right-of-way. Fourteen cars of the mixed freight were burned with their contents at a loss estimated in excess of $100,000.

Although forced to divide their lines of water between the roaring gasoline fire and scores of neighboring homes, firemen were successful not only in preventing the burning of a single house but checked the fire before flames reached the thirty tank cars separated by a box car and two gondolas from the burning section of the train.

Paint was burned from the first tank car in the string of thirty and scorched homes a half-block distant told by how narrow a margin spread of the flames was halted. Railroad officials, unable to remove the string of tank cars from the danger zone, hurriedly sent fifteen miles to nearby Fostoria for a locomotive and telephoned neighboring cities for fire pumpers, but when help came the fire had been checked.

Distant View of the Fire Showing the Flames

The first fire alarm was sounded at 10:20 p. m. and the fire was tapped out at 1:58 a. m. A broken brake bar derailed fourteen cars in the middle of a 70-car freight less than a block from the bridges over which all railroads cross the Sandusky river.

Two firemen were injured. Fire Lieut. Edward Miller suffered an eye injury and Mechanic Arlington Beck, burns on his hands.

Firemen were praised by officials and citizens for bravery beyond the call of duty. They manned hose lines at the edge of the railroad tracks while repeated explosions caused crowds to stampede and forced evacuation of the residential area within a block on each side of the fire area.

Fire damage was negligible except on the railroad right-of-way.

Scene at the Fire Showing One of the Derailed Tank Cars

I.A.F.C. DIRECTORS PLAN PROGRAM FOR CONFERENCE AT CHICAGO

Dates Tentatively Set for August 31, September 1, 2 and 3; National Defense to be Theme of Meeting

As noted in the last issue of FIRE ENGINEERING, the annual meeting of the Board of Directors of the International Association of Fire Chiefs was held in New York City on February 2 - 5.

The meeting was an outstanding one, and centered largely around the wartime activities of the fire service.

The Board had opportunity to hear talks by Roi B. Woolley, Chief, Fire Defense Organization and Coordination Unit, Office of Civilian Defense, Washington, D. C.; Jack Mason, Chief, Fire Defense Section, Office of Civilian Defense, Washington, D. C., and George A. Cumming, Chief, Fire Protection Section, Bureau of Governmental Requirements, War Production Board, Washington, D. C. In the exchange of questions which followed, the group received a very clear picture of the functioning of both of these organizations.

Tentative Program

The tentative program planned for the Chicago conference includes the following:

Fire Protection of Naval Ships, by Lieutenant Commander Harold Burke of the U. S. Navy.

Protection of Coast Guard and Merchant Marine Shipping, by Lieutenant Commander Lloyd Layman of the Coast Guard.

Protection of Docks and Piers, and Storage of Materials Thereon, by Lieutenant Commander Hughes of the Navy.

Control of Sabotage, by J. Edgar Hoover, Director, Federal Bureau of Investigation, Washington, D. C.

The Office of Civilian Defense and Its Aims, by Jack Mason, Chief, Fire Defense Section, Office of Civilian Defense, Washington, D. C.

Mutual Aim from the Standpoint of the Office of Civilian Defense, by Chief Roi B. Woolley, Chief, Fire Defense Organization and Coordination Unit, O.C.D., Washington, D. C.

The Place of the National Board of Fire Underwriters in the National Defense Program, by Wilbur E. Mallalieu, General Manager, National Board of Fire Underwriters.

Organization and Training of Plant Fire Brigades, by Major J. R. Webber, Fire Protection Officer, Internal Security Division, U. S. Army.

Fire Apparatus and Equipment Priorities, by George A. Cumming, Chief, Fire Protection Section, Bureau of Governmental Requirements, War Production Board, Washington, D. C.

Plant Brigade Organization and Maintenance from the Standpoint of the Municipal Fire Service, by Chief Peter Steinkellner, Milwaukee, Wis.

Canada's Defense Program, by W. J. Scott, Fire Marshal, Province of Ontario, Toronto, Ont.

The Functions of the Safety and Technical Equipment Division of the War Production Board, by George W. Angell, Deputy Director.

Arson Control in Wartime, by A. Bruce Bielaski, National Board of Fire Underwriters.

Operation of Fire Streams Around High Tension Electrical Apparatus, by Chief Walter W. Stephen, Monsanto Chemical Company, Anniston, Ala. (and Secretary-Treasurer of the Southeastern Association of Fire Chiefs).

Other topics will be added at a later date to complete the program.

Another subject discussed at the Directors' Meeting was the problem of a depleted personnel due to Selective Service draft, enlistments, etc. This topic was treated fully by George J. Richardson, Secretary-Treasurer of the International Association of Fire Underwriters. The Necessity of Priorities on Fire Apparatus; Closer Cooperation with Federal Bureaus; and the OCD Firemanic Training Program were the other subjects discussed by the Directors.

The selection of the convention city was deferred until Chief Ray Tiller, former President of the Association, had opportunity to visit prospective cities and to check the facilities. The choice ultimately lay between Chicago and Detroit. Following receipt of the report on these cities from Chief Tiller, the Officers and Directors were contacted and as a result Chicago was selected. The dates of the meeting will be August 31, September 1, 2 and 3.

Exhibit facilities will be provided on the mezzanine floor of the Palmer House, which will be hotel headrquarters. Only small equipment may be shown. No provision will be made for display of motor apparatus or other heavy equipment.

Resolutions Adopted

The following resolutions were unanimously adopted by the Board:

"WHEREAS, over a period of years it has been a recognized fact that firemen have received the lowest wages of any profession,

"WHEREAS, it is generally recognized that the cost of living has advanced materially in recent years,

"WHEREAS, wages of industry have been substantially increased, and in addition thereto bonuses and other forms of additional compensation have been made available to workers in industry,

"WHEREAS, in view of the fact that the Federal Government has recognized the necessity of salary increases, it is the opinion of this organization that municipalities throughout the United States should also take cognizance of this by providing substantial salary increases for members of the Fire Service.

"WHEREAS, the responsibilities and dangers of the Fire Service have increased tremendously due to the nation's war efforts,

"WHEREAS, the professional fire service has not generally received increases to meet the increased cost of living,

"BE IT RESOLVED, that the professional firemen throughout the entire nation receive a wage adjustment in conformance with the increased hazards of their work and the increases granted to employees of private industry and Federal employees."

Approval of O.C.D. Work

"At the regular Annual Meeting of the Board of Directors of the International Association of Fire Chiefs, held February 2-5, 1943, it was voted unanimously to record in principle its approval of the United States Office of Civilian Defense program of fire defense, including mutual aid—and its collateral, greater cooperation between Federal and Municipal fire forces; approval in principle of Fire Instructor-Training to train auxiliaries in the most effective use of Office of Civilian Defense equipment, as outlined by Mr. Jack Mason and Chief Roi Woolley, of the Fire Defense Section of that Office.

"At the same time, the Board desires to express its appreciation of the assurances of cooperation by the Office of Civilian Defense in furthering the National fire defense as developed by the International Association of Fire Chiefs, and in connection with the forthcoming conference of the Association to be held in the interests of the national war effort."

Use of Apparatus Sirens

"At a meeting in the City of Chicago on December 3, 1942, at the Office of Civilian Defense of the Sixth Corps Area, 222 West Adams Street, a thorough discussion was held as to the advisability of dispensing with sirens on fire apparatus.

"It was voted to submit the question of dispensing with the use of sirens to a meeting of the International Association of Fire Chiefs.

"At the Annual Meeting of the Board of Directors of the International Association of Fire Chiefs, held in New York City February 2-5, inclusive, it was the unanimous opinion of this Board in the interest of safe and efficient operation of fire departments that the use of fire sirens should be continued by the Fire Service and that no changes in their use should be considered."

Cooperation Between Government Bodies and the Fire Service

"WHEREAS, the constantly increasing tempo of production, transportation and storage of material and munitions essential to the war effort on the one hand and the steady depletion of the nation's fire forces due to shortage of manpower, obsolescence of apparatus and equipment and inability to secure new replacements on the other hand, together with the ever-present possibility of enemy attack and sabotage, imposes a heavy responsibility on the nation's already over-worked municipal fire forces and seriously threatens the nation's war effort, and

"WHEREAS, to meet this threat it is vitally necessary that there be fullest coordination of all the fire services of the nation, both municipal and federal, including those of the army, navy and coast guard, and

"WHEREAS, although this Association has in the past urged greater cooperation between the federal and municipal

services, such cooperation has been limited to isolated instances and individual agencies and is not the result of mutually accepted plans and procedures adopted by both government and municipal agencies, and

"WHEREAS, the few individual examples of cooperation recorded do evidence the great good that will be accomplished from such nationwide coordination and cooperation, and

"WHEREAS, the United States Office of Civilian Defense because of its position as a neutral agency and its close relation to both the fire service and to the respective federal agencies, has already urged upon the army and navy the importance of this nationwide coordination and has received assurances of support from high officials in these branches, therefore

"BE IT RESOLVED: That the Board of Directors of the International Association of Fire Chiefs at this Annual Meeting, February 5, 1943, approve the action taken by the United States Office of Civilian Defense to effectuate the desired coordination and that this Board urges upon the respective government bodies concerned, the importance of initiating such orders as will hasten such coordination. In this connection, the Board specifically recommends:

"1. The interchange of vital information between federal and municipal agencies and services pertaining to fire hazards, fire fighting facilities, etc.

"2. Formulation and adoption of plans and procedures for reciprocal action between fire forces and other interests in time of emergency.

"3. That there be made available to each other, such resources and facilities as may be useful in fire protection and fire fighting.

"4. The avoidance of duplication of effort on the part of federal and municipal fire services.

"5. A clear definition at all times of the authority and delegation of authority with respect to the movement and operation of fire forces in time of emergency."

Deferment of Firemen

"WHEREAS, approximately seven per cent of the personnel of the professional fire service has already been drawn into the armed forces,

"WHEREAS, it is practically impossible to secure replacements due to the fact that the qualifications of professional fire fighters are practically the same as those of the armed forces,

"WHEREAS, those who are deferred for dependencies are attracted by the higher wages in other industries,

"WHEREAS, the weakening of the personnel of the professional fire service constitutes a serious threat to the safety of war industry, storage and shipment of war supplies,

"WHEREAS, thirty-six per cent of the men now in the fire service are subject to military service because of the present requirements of the Selective Service Act.

"WHEREAS, the fire service is recognized as the first line of civilian defense,

"THEREFORE, BE IT RESOLVED, that the Board of Directors of the International Association of Fire Chiefs in annual meeting in New York City from February 2-5, inclusive, go on record as recognizing the serious situation being brought about by the shortage of manpower and its effect upon the fire service.

"BE IT FURTHER RESOLVED, that the Manpower Commission be urged to take immediate steps to insure that no more firemen be permitted to be drafted into the military service,

"BE IT FURTHER RESOLVED, that copies of this resolution be sent to the Director of the Manpower Commission, Paul V. McNutt, and to members of this Association."

Attendance at Meeting

Those in attendance at the meeting, including guests and visitors, were as follows:

Chief A. T. Callahan, Harrison, N. J., President; Chief D. B. Tierney, Arlington, Mass., Secretary-Treasurer; Chief A. J. Baker, Lewistown, Mont., First Vice-President; Chief S. J. Pope, Boston, Mass., Second Vice-President; Chief Peter Steinkellner, Milwaukee, Wis., Director, Great Lakes District; Chief Edward Warr, Salvage Patrols, Baltimore, Md., Director, Eastern District; Chief Ray Tiller, Waterloo, Ia., Director, Missouri Valley District; Chief Ernest Woods, Director, Dominion of Canada; Chief Selden R. Allen, Brookline, Mass., Director, New England District; Chief F. C. Pfaender, Florida State Hospital, Chattahoochie, Fla., Director, Southeastern District; Chief Ross B. Davis, U. S. Navy, Washington, D. C.; Chief James Armstrong, Kingston, Ont.; Secretary, Dominion Association; Chief Charles E. Clark, Wayne, Penna., Secretary, Eastern District; Chief J. T. Keegan, Salvage Patrols, Newark, New Jersey, Chairman of Exhibits of the I. A. F. C.; Chief James N. Duncan, Alexandria, Va., First Vice-President Southeastern District; George J. Richardson, Secretary-Treasurer, International Association of Fire Fighters, Washington, D. C.; George W. Booth, Chief Engineer, National Board of Fire Underwriters, New York City; Chief and Commissioner Patrick Walsh, New York City; Ex-Chief George Mitchell, East Orange, N. J.; Chief Charles McGinley, East Orange, N. J.; Chief John J. Tubridy, Buffalo, N. Y.; Battalion Chief Daniel Deasy, New York City; George J. Kuss, President, Woodhouse Manufacturing Company, New York City; Chief Roi B. Woolley, Chief, Fire Defense Organization and Coordination Unit, Office of Civilian Defense, Washington, D. C.; Jack Mason, Chief, Fire Defense Section, Office of Civilian Defense, Washington, D. C.; George Cumming, Chief, Fire Protection Section, Bureau of Governmental Requirements, War Production Board, Washington, D. C.; Fred Beardslee, Mack Manufacturing Corporation, Long Island City, N. Y.; Hugh Walker, American-LaFrance-Foamite Corporation, Elmira, N. Y.; Joseph H. Green, United States Rubber Company, New York, N. Y.; Clarence Meek, Mack Manufacturing Corporation, Long Island City, N. Y.; Harry Cavanagh, American District Telegraph Company, New York, N. Y.; Arthur Myers, Atlas Fire Equipment Company, New York, N. Y.; Michael Murphy, BiLateral Fire Hose Company, New York, N. Y.; Ray Cornwall, Kerotest Company, Pittsburgh, Pa.; I. H. Case, Vice-President and General Manager, FIRE ENGINEERING, New York City, and Fred Shepperd, Headquarters Manager, I. A. F. C.

Veit Heads C. G. Braxmar Company

John O. Veit has become President of the C. G. Braxmar Company of New York, well-known manufacturers of fire department badges and fraternal jewelry. He succeeds the late George E. Bradbrook who passed away February 11.

Associated with the Braxmar Company for nearly thirty-five years, Mr. Veit is one of the country's most experienced men in his line. He started with the company in 1908, and worked his way up through all branches of the organization. He was made Secretary in 1924, Vice President in 1940, and advanced to the Presidency last month.

John O. Veit

Anna L. Veit

A regular attendant at most of the International and other Fire Chiefs Conventions during the past twenty years, Mr. Veit has a wide acquaintance among fire chiefs and others in the fire field throughout the country.

With Mr. Veit's elevation to the Presidency, his wife, Anna L. Veit, was made Vice President of the company and is taking an active part in the conduct of the business. Mrs. Veit, too, has been a familiar figure at many of the chief's conventions.

State Guard Barracks Burn

California State Guard officials are investigating the cause of a fire which recently razed the barracks building of Ravenswood Post No. 4, California State Guard naval unit near the Dumbarton railroad bridge in the southern part of Alameda County.

Fire units from the Alameda and Santa Clara Counties fire departments and a unit from the State Forestry division were unable to control the blaze. The building was originally a pumping station owned by the San Francisco Water Department.

The State Guard was formed when the California National Guard units went into active war service.

BOB GREENOCK.

Firemen Ordered to Save St. Paul's

At one point in the "great fire" of London, on December 30, 1940—often likened to the Great Fire of 1666—an order came through to auxiliary firemen to save St. Paul's Cathedral no matter what else was destroyed.

Edward A. Baker, Divisional Officer of the Lodon, England, Fire Department, who recently made a lecture tour through various cities in New England, was one of those who lived through the blitz and led fire fighting forces in their heroic work.

Baker, accompanied by Ex-Chief Michael T. Keena of the Hartford, Conn., Fire Department, now State Fire Co-ordinator, spoke before a large audience in the assembly hall of Warren Harding High School, Bridgeport, on December 6. With typical British directness and understatement, he described the fire in these terms:

"It was unforgettable. St. Paul's Cathedral seemed absolutely ringed with fire, and at one period its destruction seemed inevitable. Then during the night an urgent message came to concentrate all efforts on saving St. Paul's

"This symbol, this famous landmark, was not going to burn. Inspired to renewed vigor, we fought on—and in the morning, St. Paul's was safe."

Mr. Baker was frequently ordered to take charge of important London districts during the worst of the 1940 blitz. The British Consulate is arranging his tour into other sections of the country. Capt. Philip J. Thompson of the Bridgeport Fire Department and Police Captain John J. Lyddy were in charge of the arrangements.

T. F. MAGNER

Gasoline for U. S. Army

The war situation has created the necessity for shipments of gasoline in drums handled in box cars. A shipment of this nature noted as in leaking condition revealed an absence of blocking to prevent shifting of the lading while in transit. Each case of this nature should be called to the attention of the Bureau of Explosives to enable control of future shipments at point of origin. The emergency is also making necessary the use of tank cars for transportation of oil, sometimes before opportunity has been afforded to place this rolling equipment in satisfactory condition. Mechanical Division of the Association of American Railroads is constantly alert to remedy this situation before cars leave refineries. Single trains have been noted with over fifty box cars, each containing nearly one hundred individual containers of gasoline. The Bureau of Explosives intends to insure that these shipments are well braced, so that no trouble from these shipments is anticipated. The design of a special can for the U. S. Army is of rectangular section and arranged with three horizontal bars at the top of the can in order to enable four of these to be carried by one man. Owing to the shape of the can the maximum number of gallons per shipment is assured in contrast with the amount that would be possible if circular section cans were used.

In view of the large volume of gasoline being handled in drums it has been necessary to arrange open storage facilities for the number of drums anticipated. The special precaution has been taken at some points to surround such areas with dike protection so that in the event of leakage or fire the flammable liquid will be confined to a definite area. It is evident that storage areas should be at points where either regular or special protection is afforded, and that signs prohibiting introduction of open flame devices and use of smoking materials should be prominently displayed. If leaking drums are received in any shipment these must be taken care of outside of the storage area, transferring contents to sound containers should this be necessary. If the storage of bulk gasoline is at locations where war material is handled a reasonable separation must be assured to prevent possible flash fire from affecting the combustible cases. A recent tendency to permit other than safety cans for gasoline has been noted. Attention of the local Army official should be called to this departure from practice, using the type of can designed by the U. S. Army, and the same information should be conveyed to the Bureau of Explosives for additional corrective measures.

The installation of gasoline stoves in baggage cars usually has been satisfactory. Occasional violations of the specifications when reported have been corrected. In the operation, however, gasoline has occasionally been carelessly handled, such as filling the stove units inside the car. The death of one soldier was reported caused by ignoring instructions with respect to handling gasoline while other stoves were lighted.

NEWS LETTER No. 89, DECEMBER, 1942, OF THE FIRE PROTECTION AND INSURANCE SECTION OF THE ASSOCIATION OF AMERICAN RAILROADS

Fire Strikes Twice

Fire struck twice at the town of Raytown, a suburb of Kansas City, Mo., recently when a lumber yard and a building were destroyed in an afternoon fire and the Christian Church burned to ashes between 9:15 o'clock and midnight that evening.

Total loss in the two blazes was estimated at more than $150,000. District Chief E. M. Grass who directed the fight against both fires said they apparently were unrelated. The wind was blowing the wrong way to carry sparks from the lumber yard to the church. The first fire had been extinguished more than three hours before the second was discovered.

Four persons were burned or injured in the afternoon blaze, which for a time threatened all the stores and business places in the town. Two Kansas City fire companies went past the city limits to fight the fire.

Fourth Annual Banquet of Bell Club Held

The Fire Bell Club of New York City held its Fourth Annual Banquet at the Hotel Martinique on February 13. Officers of the club for this year are Harry Pusch, President; Joseph F. Hirschmann, Vice-President; Louis S. Sanford, Secretary, and Joseph Murtha, Treasurer. Members of the Board of Directors include Jerry Adelsdorfer, William Baer, Benjamin D. Branch, E. Adrian Durieu, Julian Lyon and John Price. This year's Banquet Committee included William Jerome Daly, Chairman; Edward Miller and George M. Morley.

Meet Auxiliary Fire Captain Bill Herries

Bill Herries who has contributed many of the fire photos published in FIRE ENGINEERING was recently appointed Captain of the auxiliary firemen of Engine 54, New York City. Captain Bill says that if an air raid should occur, he could direct his auxiliary firemen and at the same time snap photos of their work.

Firemen Get Pay Raise

Although voting a state administration into office and consideration of the anti-labor "Hot Cargo" amendment were of primary concern to California voters on Nov. 3, citizens of San Francisco found time to consider two city propositions involving the San Francisco Fire Department.

As a result, City Proposition No. 28, calling for an adjustment of fire and police compensation schedules on the basis of years of service, with minimum increases of $10 monthly and maximum increases of $25 monthly, was approved by the voters. The pay raise, which will go into effect as soon as certain legal requirements are met, must be given before July 1 next.

At the same time, the citizens voted that the Underwriters Fire Patrol be absorbed into the San Francisco Fire Department as a new division of the department, to be known as the Salvage Corps. All uniformed members of the Patrol who have six months or more of service at the time of the absorption will become members of the Salvage Corps.

Provision is made for any members of the Patrol now on leave in the armed forces, and all their rights protected. The Patrol men will get a boost in pay, receiving the same as regular firemen now get and getting the pay raise when it goes into effect. They automatically come under the local civil service and will receive all benefits under the city charter. Personnel of one body is not to be transferred to another after the absorption and examinations for the department in general and the Salvage Corps will be held separately.

The pay raises voted were the first upward adjustments the firemen have had in 18 years. During the depression, like everyone else, they suffered downward adjustments, some amounting to more than $25 monthly, lasting about two years.

Both the CIO and AFL campaigned for the firemen and police pay boost. Other bodies joined in the campaign, including civic, fraternal and trade groups. There was no organized opposition.

Under the new scale, officers and men will receive the following rate annually:

Chief engineer, $7,500; first and second assistant chief engineers, $5,100; Battalion chiefs, $4,500; captains, $3,300; lieutenants, $3,120; engineers, $2,940; chief's operators, $2,820; drivers, stokers, tillermen, truckmen, hosemen, $2,400 for the first three years, $2,520 for the fourth, $2,580 for the fifth, $2,640 for the sixth, $2,700 for the seventh and succeeding; pilots of fire boats and marine engineers of fire boats, $3,360; firemen of fire boats, $2,760.

BOB GREENOCK.

Near-Zero Weather Balks Firemen in Newburgh Fire

A $175,000 fire that threatened a large portion of a midtown Newburgh, N. Y., business block swept through an Atlantic and Pacific Tea Co. food market and the Central Bowling Academy in the Stubley Building and the adjoining Broadway Theatre on the afternoon of January 22 in one of the city's worst. The fire involved four buildings, one of which was totally destroyed, another partly destroyed, a third slightly damaged and the fourth unscathed.

Employees of the A. & P. store by quiet, heroic effort averted a possible major disaster when they evacuated more than 100 customers shortly after the blaze was discovered at 1:35 p.m. The flames rapidly enveloped the entire market.

Three firemen were overcome by smoke and gas and an employee of the A. & P. store was seriously burned.

The two-story Stubley Building was a total loss, gutted from cellar to roof by flames. The theatre was burned out in only one section, but the most extensive damage was caused by water.

Firemen under the leadership of Chief George W. M. Brown, were able to prevent the fire from doing much damage to the Central Hudson Gas & Eelectric Corp. building and from reaching the Fletcher building.

The fire raged out of control for nearly four hours as hard-pressed Newburgh firemen, aided by volunteers from four nearby communities, fought the stubborn blaze in near-zero temperatures. The fire was brought under control shortly after 5:15 p.m.

The fire was believed to have resulted from defective electrical connections causing a short circuit in the A. & P. store's big refrigeration plant.

Firemen were unable to explain the speed with which the flames raced through Stubley Building. During the early stages of the fire, the flames were concentrated in the front of the store, from which point they worked up to the bowling alleys on the second floor. As soon as the flames reached the highly polished hardwoods, the blaze spread rapidly to the rear of the building and also up through the ceiling. Twelve alleys, valued at approximately $25,000 were destroyed, along with 200 bowling balls and 100 sets of tenpins.

The wind blowing in the direction of the theatre was responsible for the spread of fire to that structure.

At the height of the fire thirty streams of water were played upon the four buildings.

Fourteen pieces of fire fighting equipment were pressed into service. The Newburgh Fire Department used seven pumpers and two hook and ladders, and these were augmented by pumpers from Beacon, New Windsor, Cornwall, Cornwall-on-Hudson and Walden. The city's entire fire fighting force of fifty-one paid firemen and forty call men were mobilized by Chief Brown, who directed the combined fire fighting activities of the fourteen companies. Out-of-town fire companies brought an additional fire fighting force of 150 men.

Flames Sweep Bowling Alley

Firemen battle with the flames that swept through the Beverly Recreation Hall and cocktail lounge in Chicago, Ill., recently. One hundred persons were injured and several burned to death.

Two Die in Hotel Fire

Two men were suffocated, three were injured, eight were rescued while unconscious and eighty-five others periled when a three-alarm fire swept through the Altamont Hotel, 16th and Mission Streets, San Francisco.

Harry Cahill, 30, a teamster, and Bogdo Seferovich, 50, a cook, were suffocated as they attempted to escape from their top floor—the fourth—rooms in the old wooden building, one of the Mission District's landmarks.

Ironically, the man whose carelessness police said was responsible for the fatal blaze, Ernest Nelson, 40, escaped uninjured but became so unnerved he was taken to San Francisco Hospital for observation.

The men injured were two policemen, who discovered the blaze, and a fireman, John Hourihan of Truck 7. The eight unconscious men carried from the building by the heroic police and firemen were revived by first aiders in the crowd and crews from Mission, Central and Alemany Emergency Hospitals sent to the fire by a special call for help.

Policemen Joseph Swetnam and George Hess were cruising up 16th Street at Mission when they spotted flames and smoke coming from the fourth floor room of Nelson, who, it later developed, had been smoking in bed.

Stopping only long enough to pull Box 5236 at the corner, the two policemen rushed in and with the help of the night clerk and several tenants ran from floor to floor arousing guests. As they reached the fourth floor, they began stumbling over the bodies of tenants who already had been felled by the smoke. The policemen rescued a number of tenants from the fourth floor by using the fireman's drag before they were overcome and taken out by first arriving firemen.

They were rescued just as a portion of the roof fell on them and it was then that Hourihan was injured.

The two dead men were lodged in a corner of the building where the roof caved in.

"We tried our best to get them," Swetnam said from his hospital bed, "but the going was too tough."

The flames spread rapidly through the building and the first arriving chief from Engine 7's quarters, just a block up the street on 16th, sounded a third alarm, which brought in Acting Chief Albert J. Sullivan.

The night clerk, Martin Hall, had to be restrained by firemen from going to the fourth floor after he had already carried and led a number of people to safety.

Truckmen from Truck 7 carried several people to safety and aided others down ladders thrown up to the fourth and third floor windows.

Damage was estimated at $60,000.

The box was struck at 4.20 a.m. and the third alarm eight minutes later.

BOB GREENOCK.

Gasoline Tank Fire

Fire which broke out in an undetermined manner in a dike through which gasoline was gushing from a 400,000-gallon tank at the storage plant of the Lehigh Petroleum Company at Norwich, Conn., on January 25, threatened six other nearby tanks, each containing 30,000 gallons of highly combustible fuel oil, scorched several firemen and caused unestimated damage.

Three million gallons of oil and gasoline were stored in other tanks in the immediate vicinity. The tank was being drained through a manhole as workmen were preparing to refill the huge drum from a barge in the nearby Thames River. At one time a dike abutting the storage plant was ablaze for a distance of 300 feet. All apparatus at Norwich was called into service; the state hospital for the insane at Preston sent its crew and apparatus; two coast guard fire boats from New London were called and Fire Chief Thomas H. Shipman of New London responded with the Thomas Engine Company, a rescue squad from Headquarters and a trailer containing foam from the Oxford Hose Company.

The fire broke out at 8 A.M. and was brought under control shortly after 11 A.M. The plant is located on the New London-Norwich road near the city line. Tons of foam were used by the firemen. The supply on hand was quickly exhausted and state police rushed additional supplies from oil companies and fire departments in Hartford, Middletown, in Connecticut, and Providence, R. I. 6,000 gallons of gasoline were lost in the fire.

THOMAS F. MAGNER.

Scene at Gasoline Tank Fire in Norwich

Asbury Park's New Hose Wagon
Under the direction of Chief William S. Taggart, the members of the Asbury Park, N. J., Fire Department have completed the assembling of a hose wagon.

Trucks Sought by Fire Department

San Francisco's Civilian Defense Council recently appealed to San Franciscans to sell their trucks, in the 1½ to 3-ton truck class, to the city for the purpose of putting them into service as auxiliary fire trucks.

According to Jack Helms, local civilian defense head, and Assistant Fire Chief Albert J. Sullivan, the trucks are needed on which to mount 336 pump units, now on their way to the West Coast city from the Chrysler plant at Detroit, for forty-eight pump units now in the department's corporaiton yards and for auxiliary hose carriers.

The city has twenty-two auxiliary pumpers, all of the 500-gallon class, in service.

Chief Sullivan said the city has been able to get some nozzles, has 178,000 feet of 2½-inch hose on order and has hopes of getting additional necessary couplings, reducers, valves and pipes.

The city was to have received the remaining 336 of an original order of 356 pumpers in trailer type equipment but the fact that they would be delivered without tires and no tires were available made a change of plans necessary.

Several city officials have been dispatched on scouting expeditions throughout the country to get additional trucks if possible.

BOB GREENOCK.

Value of Additional Line

To the Editor:

A 750-gallon pumper (piston type) is pumping through two 2½-inch outlets to a deluge or siamese. Would you receive more water by putting a wye with two 2½-inch outlets on one side of the pumper and then proceed to the siamese with a 2½-inch line, making three 2½-inch lines to the siamese, or by using a 2½-inch line on each side of the pumper?

H. F. H.

Answer: In order to make calculations, and therefore arrive at specific figures, you have to make certain assumptions. We shall assume that each line of hose is 200 feet in length, that a 1½-inch tip is used and that the pumper is operated at 120 pounds pressure.

Under these assumptions, the following calculations are made, where two lines of hose are being supplied:

Nozzle Pressure = Engine Pressure ÷ (1.1 + KL), where K is a factor depending upon hose layout and size of nozzle. For two parallel 2½-inch lines of hose with 1½-inch nozzle, K is .135.

L, the number of 50-foot lengths of hose in the stretch, is 200 ÷ 50, or 4.

Then N. P. = 120 ÷ (1.1 + .135 × 4)
= 120 ÷ 1.64
= 73 pounds approximately.

Discharge from the 1½-inch nozzle at this pressure is 570 gallons approximately.

If a third line is added, calculations are as follows:

N. P. = E. P. ÷ (1.1 + KL)

K, for three 2½-inch lines and 1½-inch nozzle is .061.

L is 4.

Then N. P. = 120 ÷ (1.1 + .061 × 4)
= 120 ÷ 1.344
= 89 pounds approximately.

The discharge from a 1½-inch nozzle at 89 pounds nozzle pressure is 630 gallons per minute approximately.

Therefore by adding the third line you increase the nozzle pressure from 73 to 89 pounds, and increase the discharge from 570 gallons per minute to 630 gallons per minute.

Use of Long Feed Line

To the Editor:

In some localities on this post our fire hydrants are about thirty-five feet from the street's hard surface. Should we be compelled to use one of these hydrants we would have to use a fifty-foot section of 2½-inch double jacket, rubber lined, fire hose as an engine suction. We have the compression-type fire hydrants and our static pressure is about fifty pounds per square inch. We would like to know how much pressure is lost as the water passes through the hydrant and how much friction loss we will have in the suction line. What will be the amount of water furnished the pump using this hookup?

Our fifty-foot section will be placed on a 2½-inch opening on the plug and by using an adapter, will be attached to a 4½-inch engine intake.

G. J. Z.

Answer: Approximately 500 gallons per minute should be expected from the fifty foot line of hose attached to a hydrant at 60 pounds pressure.

The friction loss through the hydrant and outlet would be about 7½ pounds, and the friction loss in 50 feet of 2½-inch hose carrying 500 gallons per minute would be 27½ pounds, or a total of 35 pounds.

Allowing an inlet pressure of 10 pounds at the hydrant, and allowing 5 pounds for a drop in static pressure when flow starts from the hydrant, we get a total of 50 pounds, which is the pressure at the hydrant before water starts flowing.

If the hydrant is attached to a small main, or to a very long main jet at one end, then the drop in static pressure at the hydrant may be more than 5 pounds. However, as these data are not available, we have made the assumption that the drop will be but 5 pounds.

Standpipe and Nozzle Pressures

To the Editor:

1. A six-inch standpipe, 200 feet high, capped on top and equipped with 100 feet of 2½-inch hose and 1⅛-inch nozzle, is used on the ninth floor of a building. Nozzle pressure is 45 pounds. How high will the water rise in this pipe if engine pressure is 160 pounds, with 100 feet of 3-inch hose from pumper to siamese?

2. Assume same conditions as in Problem 1 except that nozzle is now shut down. How high will water rise? What is pressure at base of closed nozzle? If nozzle were not opened in Problem 1, how high would water rise?

3. To a six-inch standpipe, 200 feet high, full of water, open at the top, is attached 100 feet of 2½-inch hose with a 1⅛-inch nozzle (closed). What is the pressure at the base of the closed nozzle? Should atmospheric pressure be included?

4. Assume same conditions as in Problem 3, except that cap is riveted to stop of standpipe, and then the 1⅛-inch nozzle is opened. Will standpipe empty itself? If so, how long will it take? Will any water remain in the pipe? If so, how much? If water flows out, how many gallons per minute for each minute of flow? What will be the nozzle pressure when water level has come down to 100 feet, and 35 feet?

5. I have heard the expression that there is no pressure at an open butt, only velocity, and that the function of a nozzle is to convert velocity into pressure. Will you please explain?

F. J. R.

Answer 1. If the 6-inch standpipe, 200 feet high, is capped on top, and 100 feet of 2½-inch hose with 1⅛-inch nozzle (45 pounds nozzle pressure) is stretched on the ninth floor, the water will rise to a point about 75 feet above the ninth floor, or 175 feet from the ground.

If the pipe were open at the top, the water would rise right to the top and overflow, but as it is capped, an air pressure is built up in the closed space. This air pressure plus the back pressure of the water in the standpipe plus the friction loss in standpipe and lead line from engine must be equal to 160 pounds.

Answer 1. If the nozzle were shut down, and shut down properly, that is, shut down slowly, there would be no appreciable impulse or water hammer during the operation. Then the water will rise in the standpipe to a point about 80 feet above the ninth floor, or 180 feet from the ground.

The pressure at the base of the closed nozzle will be the engine pressure minus the back pressure, or 116.6 pounds.

If the nozzle was not opened in Problem 1, a situation would develop which is practically the same as that answered above, namely, the water would rise to a point 80 feet above the ninth floor, and the nozzle pressure would be 116.6 pounds at the closed nozzle.

Answer 3. A 200-foot standpipe is filled with water, and is open at the top, and the nozzle attached to the base of the standpipe is a 1⅛-inch nozzle (closed), the pressure at the base of the nozzle would be 82.8 pounds.

Atmospheric pressure is not included, for

your gauges are made to record pressures from atmospheric pressure on up. In other words, your pressure gauge on a pump shows zero while the air within the gauge is under a pressure of 14.7 pounds (absolute). Hence there is no addition made for atmospheric pressure.

Answer 4. If the standpipe in Problem 3 is capped at the top, water will flow from the standpipe through the hose line nozzle, but how long it will take is impossible to answer. Only as air travels backward through the line will the water leave the standpipe, after the water has dropped to a certain level. The water will normally drop to a point about 34 feet above the nozzle. At this time, assuming no air has passed through the nozzle, through the line and up into the standpipe, there will be practically a complete vacuum in the standpipe. However, as air passes through the nozzle back into the standpipe, the water will be permitted to flow out, but how long it will take will depend entirely upon how quickly the air gets back into the standpipe.

The standpipe will ultimately be completely emptied.

The rate of flow, of course, cannot be determined, nor can the nozzle pressure, when the water is at any particular level, due to the fact that air may be passing through the line into the standpipe or it may not be so passing. This we may have a partial vacuum or no vacuum above the water level which will determine very definitely the nozzle pressure.

Answer 5: At an open butt, or nozzle, pressure head is completely changed into velocity head, it being the purpose of the nozzle to make this conversion. The nozzle converts from pressure head to velocity head rather than from velocity to pressure, as you state.

For detailed explanation of the meanings of velocity head and pressure head, you are referred to any standard textbook on hydraulics. A full explanation would be too lengthy to incorporate here.

Freak Fire

Two high-legged lumber carriers, the kind where the driver sits up on top of the huge truck that looks like a giant bug and the load is carried below him and between the wheels, recently caused three fires in Oakland, Calif., in a freak accident.

One truck was towing the other, which had suffered a motor breakdown. The towed truck suddenly ran wild when the tow line snapped. The truck hit a pole, carrying high voltage wires, breaking a 12,000 volt wire which showered the vicinity with sparks and shorted some low-voltage lines.

A grass fire started immediately and the fire department was summoned.

The 12,000 volt line falling on a 110-volt line caused fuses to burn out; shorts resulted and molten metal poured out of the fuse boxes. One such shower fell on a work bench in the Atlas Freight and Transfer Company a block away. The fire department was called there.

Still further down the street a fuse burst in the home of Frank Odell at 718A High Street. Glass spattered, the fuse box and other things in the basement caught fire. Odell rushed to the street with his daughter, Gwendolyn, 2.

When firemen arrived at the third fire, they found the house in flames and the crib, from which Odell had snatched his daughter, half burned.

BOB GREENOCK.

Our inquiring reporter overhauls the firemanic news of the day

One for Ripley

This has happened many times, but out in Seattle, Wash., on the night of February 11 a "false alarm" got a new twist.

Instead of a pedestrian trying to mail a letter in a fire alarm box firemen of that city who responded, found Arthur Brend, **substitute mail carrier, actually trying to make a mail collection from one!** Which looks to us like a "record."

* * * * *

Fireman! Save My Che-e-eild!

Recently the house of an animal trainer in Milwaukee (Wis.) started blazing. The Brothers rushed to the scene. The citizen who turned in the alarm pointed to a second story window and yelled: **"Save them, save them! There's some one up there!"**

Heroically one of the Brothers dashed up the ladder and dove into the smoke-filled room. Almost as quickly his head popped out of the window and he yelled to the citizen: **"Save 'em yourself!—it's a baby elephant."**

The item, sent by a Wisconsin news-clipper, went out to say that everything turned out all right because the fire went out by itself!

* * * * *

Silence in the Ranks!

In Pasadena (Calif.) an item from "J. E. B." says that conversation between firemen has been suspended for the duration. The Fire Department is no longer able to supply the firemen with gas masks having "speaking diaphragms" which ordinarily enable the firemen to indulge in all the social amenities—or even swear (we are quoting the item) at each other—while putting out the fire. Tut tut—Mr. "J. E. B.," how could that reporter have gotten the idea firemen ever swear at each other while working on a fire! Preposterous!

* * * * *

Tale of a Beaver Fireman!

This 'un can be kayoed by Ripley too. We know firemen who "work like beavers" (and some who don't), but we never heard of beavers that worked like firemen! Which shows our lack of education.

From Bend (Ore.) comes a clipping, unsigned, to the effect that Beavers of the Deschutes National Forest, long renowned as loggers, water conservation experts and civil engineers, have added another distinction to their list—they make excellent fire fighters. The yarn goes on to say that when workers kindled fires on newly poured concrete abutments on a river near Bend to prevent the concrete from freezing, three Beavers became alarmed and undertook to quench the blazes by splashing the flames with their tails. They did such a good job, too, that the fires had to be rekindled.

Wot a tale—or tail!

* * * * *

Considerate Fire!

In Woodstock (Vt.) an early morning fire was most considerate and easy on the Department's gasoline supply. The burning building was next door to the firehouse and all the Brothers hadda do, we are told, was to play water on the blaze from hose passed through the firehouse windows, without moving a fire truck.

* * * * *

S'cuse Us if You've Heard This'un

Many times in the past we've printed yarns about the Braves who have set themselves afire while sliding the pole or squirming in their chairs during a "hot" game of pinochle (or something), so you'd think our readers would be kinda wise to the possibilities. But still the reports come in. The latest is from Okmulgee (Okla.) sent by an unidentified Contrib' which says that when the alarm gong at the firehouse sounded, Chief Frank Beals did his slide down the pole, hopped the apparatus—and promptly smelled smoke. He looked down and his shirt was afire. This account differs from most of our yarns which place the "seat" of the fire in the fireman's pants. Yeah—the Chief touched off a pocketful of lucifers.

We are told the Chief put out his own fire without delaying his response, then went to work on the job for which he was called.

* * * * *

Hot Off the Tape

Thirty-six firemen were treated for exposure and smoke poisoning as aftermath of spectacular 4-alarm fire in Brooklyn during below-zero spell. Lieut. Fealy of the Department Shops froze his nose. . . . Among those "made" in recent promotions in New York City Fire Department was Ted. Beliakoff, former Captain of Rescue Three advanced to Batallion Chief. Congratulations, Ted. . . . Also best wishes to newly made chiefs, George Cavanaugh, Oscar Prackett, Christopher Fullam, Joseph Ober, Michael Murphy, Patrick Griffin, Arthur Kane and John Heaney. A long list of old friends were also advanced to Lieutenants, Pilots, Engineers and still others became Firemen. . . . The Hotel William Penn, Pittsburgh (Penn.), was fined $50 for letting 1,500 persons crowd into a ball room designed to accommodate not more than 1,000; case was first of its kind in this city. . . . When nineteen horses and colts were found dying of starvation and thirst in unattended stable in Chevy

(*Continued on page* 155)

For Practical Discussion of Current Fire Department and Fire Management Problems

PRIORITIES FOR UNIFORM CLOTH

UNIFORM cloth has now been added to the increasing list of fire department equipment covered by priorities. Many fire departments have found that the material they normally use for their uniforms cannot be purchased without a priority number, and in many cases not even then. Consequently, they have either had to relax their regulations regarding the wearing of uniforms or have had to draw up new specifications for uniforms using other less critical materials. The experiences of a representative number of fire chiefs are given below.

Readers are invited to send their comments on this subject for inclusion in the discussion which will be continued in the next issue. Address communications to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York, N. Y.

Discussion of the Topic

Edward J. Cannon, Chief, Norfolk, Va.: We did get into a little difficulty last year on the matter of priority for uniform cloth, and in order to overcome same, I made a small change in the cloth.

Our overcoat specifications call for 951-4 Walther blue whipcord and the summer uniform specifications call for Wanskuck Mills dark blue serge, both of which the local mrechant found impossible to obtain.

Upon the suggestion of a local naval tailor, we have changed the specifications for both summer and winter uniforms to midnight blue Stillwater serge, Cravanetted, and have been successful so far in having both winter and summer contracts filled without priority.

I am not sure that a priority for the original cloth in use could have been obtained.

Thomas J. Phelan, Chief, Trenton, N. J.: We only use dress uniforms for actual department details, such as inspections, theatre duty, etc. Men do not use their uniforms while reporting on and off duty. This conserves uniforms greatly. We have special work uniforms of cotton for use while on house duty. We have not applied for priority up to this time, and thus have experienced no difficulty in procuring woolen cloth.

HERE IS THE PROBLEM

What has been your experience with regard to priorities for uniform cloth?

(A) Have you had to secure priority?

(B) Any difficulty experienced in getting it?

(C) If priority was denied, how was the problem solved?

Charles DeVleeschower, Chief, South Bend, Ind.: We have not been able to secure priority for uniform cloth up to the present time. The members of my Department are buying blue serge uniforms and wearing them while on duty, thereby saving their regular uniforms to go back and forth from quarters.

M. J. Hayden, Chief, Bridgeport, Conn.: Our uniform requirements are for Oakes Metropolitan Beaver Cloth and in April, 1942, we authorized uniform manufacturers to proceed with uniforms which were on order, and signed certificate to this effect so that they could secure the material.

We have not applied for any priority rating. In cases where material cannot be obtained, we have allowed men to deviate from the required Oakes Metropolitan Beaver Cloth and obtain the next best thing.

Charles Kuhl, Chief, Sioux City, Ia.: We have not tried to get uniforms of late. I was told over a year ago by a WPB official that uniforms were going to be out. We adopted pants made of covert cloth to wear around the station. Each member purchases three pairs so as to have them clean at all times. This saves their uniforms for inspections and special duty.

John W. O'Hearn, Chief, Watertown, Mass.: We have not had to secure priorities for uniform cloth. Up to the present we have been able to secure clothing of all kinds, including rubber goods. Buttons are out for the duration and badges and insignia are tightening up with a change in quality.

Edward J. Kerr, Chief, Pittsburgh, Pa.: The Bureau of Fire does not furnish uniforms. Individual members purchase their own uniforms.

A letter from the Chief to venders stating that John Doe has been furnishing uniforms to members of the Pittsburgh Fire Bureau for——years has proven sufficient.

George C. Winter, Chief, Syracuse, N. Y.: It has been necessary to procure priorities for uniforms and overcoats for officers and members of the Syracuse Department of Fire during the past eight or ten months.

The procedure which we have been following is to send a letter asking for a priority rating for cloth needed by each individual tailor to fill orders on file.

We have had no difficulty to date in obtaining such priorities and have had the fullest cooperation from Washington. Thus far none of our applications has been denied.

Edward J. Green, Chief, Steubenville, Ohio: We have been told that it is necessary to have a priority number when ordering uniforms. We allow officers and firemen to wear blue serge which I think is better and cheaper. But you can only get coat and pants of the same cloth. Should you want a vest and extra pants, it must be a different grade. So far they match, but we do not buy a cheap serge.

James M. Duncan, Chief, Alexandria, Va.: Up until thirty days ago we experienced no difficulty in securing priorities for uniform cloth. It was necessary only to give the manufacturer a statement certifying the materials were to be used for the Fire Department.

On January 14, I received a letter from E. J. Venopal, Director of Sales, Charlottesville Woolen Mills, Charlottesville, Va., which stated that "During the past few weeks a new ruling was issued by the War Production Board which entirely bars fire departments from procuring materials for uniform purposes as they will not issue any priority rating for this purpose." As they had none of this material in stock and since none could be made up without priority ratings they could not fill our order.

We were fortunate to find a dealer who had a small quantity of material on hand so it was not necessary to get a priority.

Paul P. Heinz, Chief, New Haven, Conn.: We are unable to get Oakes Metropolitan cloth, but have had no difficulty in obtaining other materials which are equally as good.

In most cases, the uniform maker requested an official letter stating that a certain number of uniforms are

needed in our department. This letter is presented to the WPB by the uniform maker when applying for priority for uniform cloth, I believe.

The problem of obtaining priority for cloth lies with the uniform maker, not with the Fire Department. At least that has been our experience.

Thomas H. Cotter, Chief, Providence, R. I.: I applied for priority rating through the War Production Board at Washington last June and waited a considerable period without hearing from them. I then took the matter up with the local board and in ten days' time received a rating. Since then the local board had been able to grant sufficient uniform cloth to last through 1943. There has been little difficulty and no inconvenience.

Donald J. Kelley, Chief, Burlington, Vt.: The dealer we purchased the uniforms from obtained priority for the cloth. We have waited nearly three months for the uniforms and still do not expect them for at least thirty days more. We have been told that there will be no more uniforms for firemen for the duration.

If it is so that no more uniforms can be purchased for the duration, I will allow the men to wear civilian clothes at all times except when they are on official duty such as inspections, parades, duty at public gatherings and funerals.

Joseph A. Kirby, Chief, Dayton, Ohio: Our Division uses Charlottesville Serge cloth. We had no difficulty whatever in securing cloth until a month ago when the Mills informed us that their entire output was being used for the armed forces and they would no longer furnish cloth. As yet we have adopted no other material for replacement.

Karl Ogden, Purchasing Agent, Lynchburg, Va.: So far we have not had any trouble getting uniforms for the Fire Department. However, since the Fire Department does not come under any preference rating as do the Police Department, we expect to have trouble in the future getting uniforms.

J. A. Scruggs, Chief, Nashville, Tenn.: When we placed our contract for winter uniforms last fall, we secured through Pettibone Brothers Manufacturing Co., a priority for uniform cloth to make up the uniforms ordered.

The yardage of uniform cloth exceeded our order some, and they will continue to fill our orders until this cloth supply is exhausted. After this supply is exhausted, we will be unable to secure any more.

There was some delay in filling the order and getting the priority but not enough to inconvenience us.

Just what we can get or expect on our summer uniforms, I am unable to advise at this time.

M. J. Sudeith, Chief, Saint Paul, Minn.: So far we have experienced no difficulty in the matter of obtaining uniform cloth for the making of firemen's suits and coats. In order for the dealer to obtain the material it was necessary to sign a priority application. This matter was handled by the dealer.

In making application for the number of suits and coats needed, the amount was determined on the basis of a three month period in order for the dealer to set up the approximate yardage needed.

William G. Wandras, Chief, Kearny, N. J. The members of this department purchase thier own uniforms through a regular uniform maker who is familiar with the regulations of style and quality of goods required by this department.

When a man is newly appointed or when a new uniform is required by an older member, the maker requests an affidavit to accompany a priority for so many yards of goods.

Up to the present date we have experienced no trouble.

Joseph W. Morgan, Chief, St. Louis, Mo.: We have made no attempt to secure priority for uniform cloth as our department was informed that the War Production Board had ruled such uniforms were not necessary.

We also were advised by the mills making the cloth heretofore used that this material was no longer available to us without a priority.

We have substituted a cloth made by Dennis-Bruner of New York. They are making up our requirements out of cloth they have on hand at the present time and for which no priority was required.

James Louis McLane, Chief, Charleston, W. Va.: This past summer, just before priorities went into effect, and about the time uniform material took an increase in price, this Department adopted uniforms made of army twill. This has proved very satisfactory so far. I understand that since that time priorities have gone into effect on this material.

C. C. Styron, Chief, Atlanta, Ga.: When our last uniform contract was given, an estimate of material required was sent to the manufacturer and they applied for a priority for us.

At the present time, we have not been able to get a renewal of our contract, but have been given the privilege of buying uniforms at the old price rate until the amount of material allotted to this department has been exhausted. This is a very limited amount and will not be sufficient to meet the requirements.

Ira Martindale, Chief, Wichita, Kans.: Up to the present time we have not had to furnish priority numbers in purchasing our woolen uniforms. The experience we have had in the last few weeks is not very encouraging, for we have been unable to get them under any consideration.

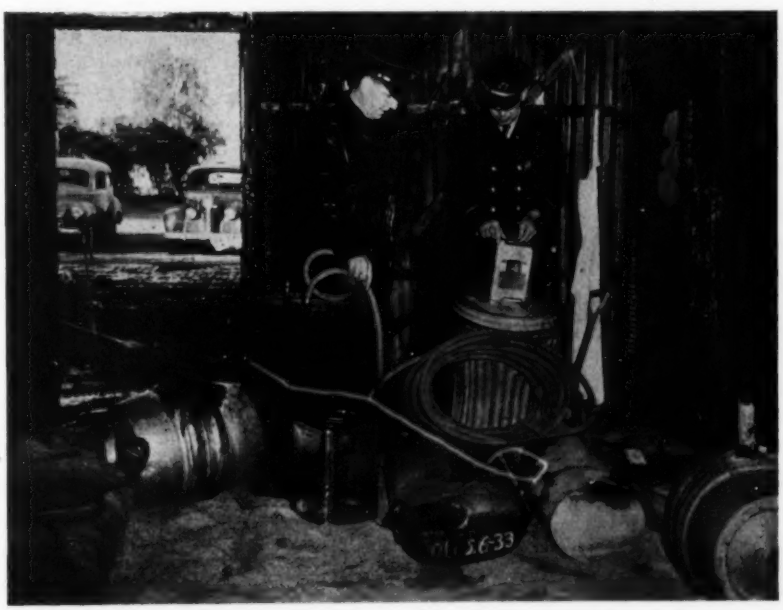
We have decided to forget the uniform problem until after the war and permit the firemen to wear what can be purchased without difficulty.

Joseph N. Sullivan, Fire Commissioner, Utica, N. Y.: I have endeavored to secure priority for uniform cloth for the members of the Fire Department. The War Production Board has notified me that no cloth is available except for policemen and guards on duty at defense plants.

(Continued on page 162)

THIS DISCUSSION WILL BE CONTINUED

Due to the large number of Chiefs who contributed their experiences, the discussion on this subject will be continued in the next issue.



Fraternity Boys Must Learn to Walk

Many a University of Arizona fraternity man will have to limber up his legs as the result of a police raid on a cache of 138 gallons of gasoline in a small shed at the rear of a fraternity house at Tucson, Ariz., recently. The gas had been accumulated by the boys for holiday travel.

Manufacturers' Announcements

A New "Victory" 2½-Gallon Foam Extinguisher

The Fyr-Fyter Company of Dayton, Ohio, in order to cooperate with the War Production Board in saving copper which is needed for airplanes, tanks, guns, ships and other important Army and Navy devices, have developed a new 2½-gallon foam extinguisher built of steel.

Alvah Small, President of Underwriters' Laboratories, Inc. (Left), and R. C. Iddings, President of The Fyr-Fyter Company, Are Shown Checking Over the New 2½-Gallon Foam Extinguisher Built of Steel

The new steel foam extinguisher is electrically seam welded and is constructed of heavy and durable material in every respect. The inner container is built of steel with porcelain enameled interior and exterior. The Underwriters' Laboratories, Inc., has approved this extinguisher as a wartime product. The steel extinguisher bears Underwriters' Label with an E. A. S. A-1 B-1 classification, same as the former foam extinguishers which were made of copper.

The Fyr-Fyter Company has also developed and applied for patents on a pump for use in hot-galvanized steel pump tanks. The pump, instead of being made of brass, is made of steel tubes coated inside and out with porcelain. Other parts of the pump assembly are made of non-critical materials. The Fyr-Fyter Company has granted the use of this patent to the Government during the duration. It is estimated that 7½ million or more pounds of copper and brass have been saved through the development of these new fire extinguishing devices.

Manhattan Rubber Enters Golden Anniversary Year

The Manhattan Rubber Manufacturing Division of Raybestos-Manhattan, Inc., Passaic, N. J., will celebrate the fiftieth anniversary of its founding as The Manhattan Rubber Manufacturing Company.

The original company was incorporated on October 28, 1893. Two months after the formation of the company, on January 1, 1894, manufacturing operations started in one small building fifty feet by 150 feet, with a crew of forty men. The site was an apple orchard adjacent to the large Speer vineyards in what was then a wooded, swampy and sparcely-settled section of Passaic.

Its plant now employs nearly 4,000 persons and covers more than a million square feet of floor space.

Fireproofed Lumber, Timber and Plywood

The use of fireproofed lumber and timber for all types of construction to take the place of steel now used for armament has resulted in a tremendous increase of this product. Acceptance by the Army and Navy has been largely responsible for this growth, according to the Protexol Corporation of Kenilworth, New Jersey.

This firm operates a forty-nine year old process of fireproofing and, until recently, had supplied primarily the metropolitan New York area where fireproofed wood has been a requirement of the Building Code for the past forty-four years. The substantial demand has required the equipping of other plants, and there are now ten plants located over the entire country able to fireproof by the Protexol process.

Fireproofing is accomplished by impregnation under vacuum-pressure methods, with chemicals which accomplish their purpose, among others, by (1) diluting the oxygen to form a nonflammable gas, (2) forming a fused layer which prevents the entrance of air, (3) lowering the temperature of wood by releasing water of crystallization and (4) by the formation of a protective layer of char, which is hard and clinker like and has high insulating properties, thus protecting the wood inside.

Official OCD Stirrup Pump

The Office of Civilian Defense has approved specifications for an official OCD stirrup pump, and has awarded contract to the Independent Lock Company, Fitchburg, Mass., for manufacture and sale in the New England States and New Jersey. Colen-Gruhn Co., Inc., 387 Fourth Avenue, New York City, will act as distributors.

Ilco Stirrup Pump

The sale of these official OCD stirrup pumps will be allocated on the basis of density of population and exposure to the hazards of fire and war in the New England and New Jersey territories.

The new Ilco Pump was designed by Government Engineers and has been tested for maximum dependability under actual service conditions.

The pump mechanism is of metal and plastics, only the handle being of wood. The 10-foot hose is flexible and leakproof, and the plastic nozzle may be adjusted to throw a solid stream or a fine spray.

"C-D Fog" Extinguisher

The General Detroit Corporation of 2272 East Jefferson, Detroit, Mich., is commencing the manufacture of carbon dioxide fire extinguishers with the introduction of C-D/Fog.

C-D Fog Extinguisher

The manufacturers report that C-D/Fog kills fire in a few seconds by penetrating to every corner where fire exists, excluding and replacing the oxygen necessary to combustion. In addition it may be discharged safely on live electrical equipment.

Installations of C-D/Fog have been made in electrical equipment, boats, trucks, war tanks, power rooms, airplanes, aircraft factories, industrial plants and refineries.

Van Gorder District Engineer of Cardox

In order to expedite its engineering service and engineering survey work in its expanding operations in the New York area, Cardox Corporation announces the appointment of C. A. Van Gorder as District Engineer, with offices at 233 Broadway. Prior to his New York appointment Mr. Van Gorder occupied a key position in the engineering staff of the Cardox Corporation home office in Chicago.

Accident Prevention Catalog Published

Cooperating with the President's campaign for the further prevention of industrial accidents, Catalog No. 50, containing 144 pages, has just been released by the Boyer Campbell Company, Detroit, Mich.

(*Continued on page* 160)

At last AN UNDERWRITERS APPROVED **CO_2 FIRE EXTINGUISHER** WHICH LITERALLY **FREEZES FIRE**

For all kinds of FLAMMABLE LIQUID and ELECTRICAL FIRES, don't depend on just *any* "Carbon Dioxide" extinguisher — use "C-D/FOG."

C-D/FOG incorporates all the ENGINEERING FEATURES and STRUCTURAL IMPROVEMENTS advanced by The General Detroit Corporation, since 1905 manufacturers of fire protection equipment. It is the most MODERN and EFFICIENT of CO_2 portable extinguishers.

C-D/FOG does not freeze at *sub-zero* temperatures, yet it FREEZES FIRE almost instantly! May be discharged safely on *live* electrical equipment.

No "AFTER FIRE MESS"! Absolutely harmless to the finest mechanism and material.

1905 THE GENERAL DETROIT CORP. 1943

Former Name The General Fire Truck Corp.

DETROIT • MICHIGAN

Manufacturers of Chemical Fire Extinguishers, Motor Fire Apparatus, and Allied Products Since 1905.

Distributors in All Principal Cities

FREEZES FIRE Free

WALL CALENDAR to recognized executives with large dramatic illustration of today's two fire protectors — the fireman and the air raid warden. Coupon also rushes COMPLETE CATALOG of "GENERAL" FIRE PROTECTION EQUIPMENT.

SEND THIS COUPON NOW

THE GENERAL DETROIT CORP.
2210 East Jefferson Ave., Detroit, Michigan.

Send me wall calendar and catalog.

NAME .....

COMPANY .....

TITLE .....

ADDRESS .....

CITY ..... STATE .....

FALSE ALARMS

"So you deceived your husband," said the Judge.

"On the contrary, he deceived me. He said he was going out of town and he didn't go."

How are you this evening, honey,
All right but lonely.
Good and lonely.
No, just lonely.
I'll be right over.

"Let's pick up these two girls," said one.

But as the girls drew near, the second man said, "Gosh—no—that's my wife and sweetheart.

"Funny!" said the first man. "You took the words right out of my mouth."

"Are you going to take this lying down?" boomed the candidate.

"Of course not," said a voice from the rear of the hall, "the shorthand reporters are doing that."

Is It Ever Thus?

"Oh, darling," he murmured, "I love you so. Please say you'll be mine. I'm not rich, like Percival Brown—neither do I have a fine car like he has; nor a well-stocked cellar, but, darling, I love you and I cannot live without you."

Two soft arms stole around his neck, and two ruby lips whispered in his ear, "And I love you, too, darling, but where can I get in touch with this man Brown?"

Safety First

A young lady went to the big city to work in a defense plant. The first week her mother wrote:

"Dear Gladys: There is one thing I forgot to warn you about when you left home. There will be men in the city who will ask you to come up to their apartment. Do not go or I will be terribly worried."

Three weeks later Gladys wrote to her mother:

"Dear Mother: I am awfully glad you told me about men who ask you up to their apartments. Just last night I met a very nice man and he took me out to dinner and, sure enough, he asked me to come up to his apartment. I remembered what you said and didn't go. I asked him up to my apartment and let HIS mother worry."

Doctor: "Your husband must have absolute quiet. Here is a sleeping powder."

Wife: "When do I give it to him?"

Doctor: "You don't give it to him—you take it yourself."

Absent

He: "Shay, baby, I think I've been kidnapped."

She: "How come?"

He: "Well, when I went to my houshe a little while ago, I looked in my bed an' I was gone."

Really Bad

Two business men were riding in the subway, sitting side by side, saying nothing but looking very worried. After many minutes one of them heaved a long and deep sigh. The other said, "You're telling me!"

Radio announcement: "Next Sunday the Rev. Dr. Jones will preach on "Skiing on the Sabbath, or Are Our Young Women Backsliding on Their Week-ends?"

"How's the patient this morning?"

"I think he's regaining consciousness. He tried to blow the foam off his medicine."

Passenger: "Captain, is she a good ship?"

Captain: "Sure, this is her maiden voyage."

"At first it was love. He fascinated me—and I kissed him."

"Yeah, I know, and then he began to unfascinate you—and you slapped him."

He: "Do you get the point?"

She: "If it's what I think it is, I don't and you're no gentleman."

Spinster: "You are the most disgusting drunk I've ever seen."

Drunk: "Lady, you're the homeliest woman I've ever seen. And another thing: tomorrow I'll be sober, but you won't!"

Dumb: "We're going to give the bride a shower."

Dumber: "Count me in. I'll bring the soap."

Sadie: "That husband of mine is a worm if there ever was one."

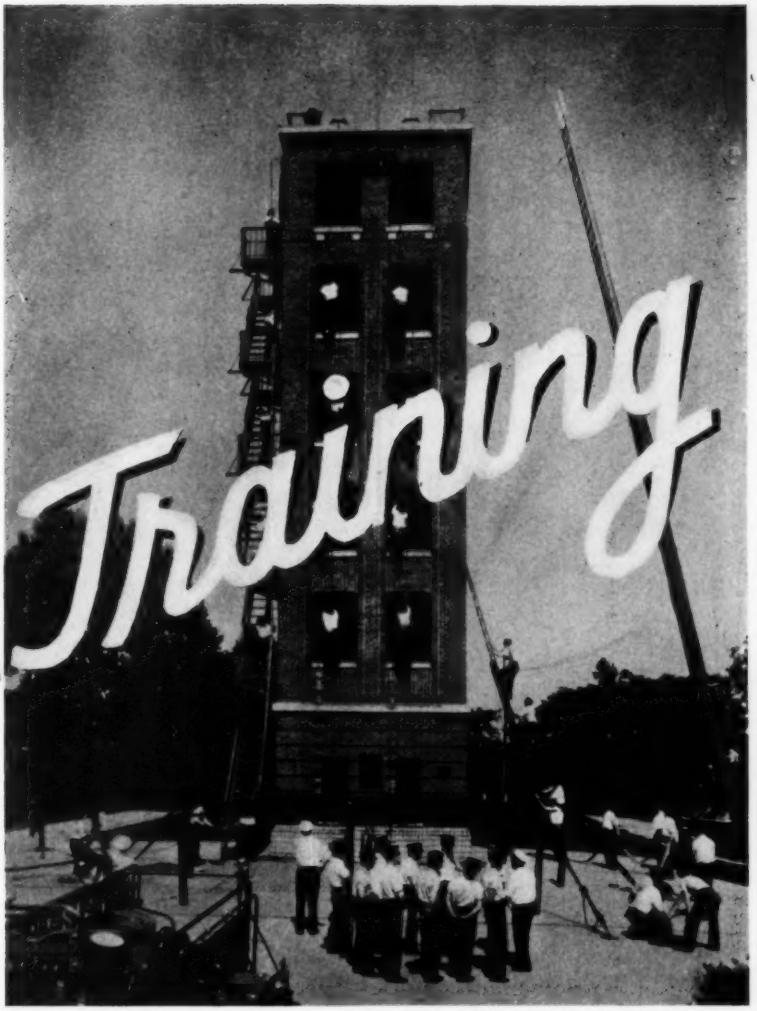
Daisy: "Yes, I just saw a chicken pick him up."

Any girl can be gay,
In a classy coupe;
In a taxi they all can be jolly;
But the girl worth while
Is the girl who can smile
When you're bringing her home on the trolley.

Who has more fun than anybody?
Rabbits!
Why?
Because there are more of them—and there are more of them because they have more fun!

We know a fellow who leads the life of Reilly five days of the week. Mrs. Reilly's husband comes home for the week-ends.

From life's book of tears and laughter
I have gained this little bit of lore—
I'd rather have a morning after
Than never have a night before.



SPRING CALLS FOR ATLAS LIFE NETS . . . . !

No training course is complete without an ATLAS LIFE NET. With spring training looming just ahead, it's time to make your plans for outdoor training. In addition to your regular firemen there are many new inexperienced auxiliaries who can and will play a part in those emergencies where a life net is invaluable.

Only safe life nets should be used. Examine your net. Consider its age and don't use it if you are not sure of its safety. *Old nets are not safe.* The modern ATLAS is safe, strong and absolutely reliable. Three years of use in a fire school, where it received nearly 100,000 jumps with impacts, at times, of over 18,000 pounds, and still operating in perfect condition. That's a record and it has never been equalled.

If you have an ATLAS—use it—instill confidence in its use. If you don't have it we will be glad to furnish particulars. Nets are available now. Place your order.

★ **Write for Literature Describing the ATLAS NETS and ATLAS LIFE BELTS** ★

ATLAS SAFETY EQUIPMENT CO., Inc.

FORMERLY: ATLAS FIRE EQUIPMENT CO., INC.

26 WARREN ST. ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ **NEW YORK**

LEADING TODAY
IN THE INTEREST OF
SPEEDY
VICTORY
THE
WOOSTER
BRASS
CO.

FIRST TO PRODUCE MALLEABLE IRON FIRE HOSE COUPLINGS FOR OCD, THE ARMY, NAVY AND GENERAL USE.

IN THE INTEREST OF METAL CONSERVATION PRODUCED BRITISH FIRE HOSE COUPLINGS FROM MALLEABLE IRON FOR SERVICE IN GREAT BRITAIN.

RINGS OF STEEL FOR ATTACHING HOSE TO COUPLINGS THAT PASS TESTS REQUIRED ON GOVT. ORDERS FURNISHED BY OUR COMPANY.

SAFETY OF OUR COASTS AND HARBORS IS ASSISTED BY DELUGE NOZZLES PRODUCED FOR THE U. S. COAST GUARD BOATS AS SHOWN IN LAST MONTH'S FIRE ENGINEERING.

TO EXPAND OUR PRODUCTION OVER 800% IN THE INTEREST OF MORE FIRE PROTECTION EQUIPMENT FOR OUR ARMED FORCES.

HOSE BRASS GOODS WB LINE THE WOOSTER BRASS Co. WOOSTER, OHIO
Trade Mark Registered

WHEN YOU SPECIFY PRODUCTS CARRYING THE "TRUMPET" TRADE MARK YOU CAN BE SURE YOU HAVE THE LATEST AND BEST IN ENGINEERING DESIGN FROM MEN WITH OVER 30 YEARS OF PRACTICAL EXPERIENCE.

The British Fire Service

(*Continued from page* 127)

sults of the foam generators. They are the same as used by some of our departments, though I have never had any experience with it.

Canteen wagons, similar to the coffee wagons of the Philadelphia, Pa., Second Alarmers' Association, are sent to all major fires. Escape ladders or turn-table ladders are sent to city fires. There is nothing that compares with our truck companies for carrying ground ladders. The turn-table ladders are relatively short wheel based trucks carrying a long telescoped aerial ladder. The only ones in the United States that I can recall are at Gary, Ind., and Milwaukee, Wis. I have not seen any rescue squad cars in England, and I am informed that they do not have water towers. Monitor nozzles are fitted on the turn-table ladders in the same manner as they are in our cities that do not have water towers.

Conclusions

In my opinion, we can learn the following from the British to aid us in the United States in combatting any possible blitzes or other emergencies:

a. The establishment of an emergency water supply system so that we do not have the same tragic experience as the British fire fighters had—failure of our water supply.

b. The consolidation of many of our departments for mutual aid. I dot not believe that a National Fire Service is as necessary in the United States as it has been in Great Britain, but it might eliminate two of our biggest bug-a-boos, politics and political boundaries. Standardization should result in a higher all around efficiency and better trained fire fighters among our volunteers.

c. The decentralization of the alarm response organization, or mobilization organization as the British call it, should eliminate the chaos that might result in an American city, should the alarm and telephone systems be crippled or destroyed. The use of dispatch riders or cycles to assure maintenance of communications is worth copying, and the system of mobilization (covering up and reinforcing) could be well studied.

d. The use of trailer pumps for emergency purposes is worth adopting. Many of the cities in the United States are better equipped with heavy-duty pumps than the British cities. However, we are sadly lacking in emergency pumps, such as the

trailers. They have the advantage of being maneuverable, easily handled by unskilled crews, and are cheap to procure as compared with self-propelled apparatus.

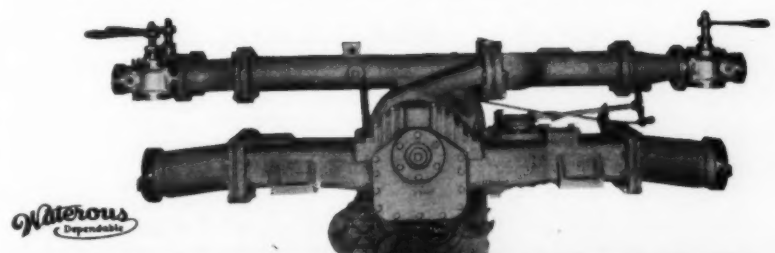
WHAT'S BURNING?

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of February, 1943. These figures, compiled from the telegraphic reports, are based on estimates made at the time and are subject to later investigation and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent losses in thousands of dollars.

Month Ending February 28	Losses in Thousands of Dollars
Jacksonville, Fla. — Three warehouses destroyed; another damaged	130
Terre Haute, Ind.—Silver Specialty shop, women's apparel shop and Meis Bros. store damaged	300
Waterloo, Ia.—Bldg. housing Flour City Box and Mfg. Co. destroyed	85
Glasgow, Ky. — Bldg. housing Houchens Market destroyed	85
Herrin, Ill.—Parkway Bowling Lanes at White City Park destroyed	50
Newton, Ia.—Maire-Walgreen Drug Store destroyed; Jewel Bldg. damaged	60
Newburyport, Mass.—Herald Press plant and Farm Service Grain store damaged	50
Port Huron, Mich.—Muir Drug Store, Schieman & Fitzgerald, Arden's Women's Wear, Lady Madison Hosiery Bar, and Fanny Farmer Candy store damaged	60
Bay Head, N. J.—Morton Johnson Boat Works Co. west shed destroyed	85
Beacon, N. Y. — Presbyterian Church destroyed	50
Canton, Ohio—Bldg. damaged	65
Napoleon, Ohio — Michael Derose confectionery store, Florain Sauer, grocery, Northwest News bldg. and Hagen & Sons furniture store damaged	85
Columbus, Ohio—Bldg. damaged	50
Bristow, Okla.—Ford Hardware Co., Searcy Jewelry Co. and the Charles McMullen insurance office damaged	60
Clifton, Tenn.—Three bldg. housing drug store and garage of J. E. Patrick and feed mill damaged	80
Gatesville, Tex.—Leaird Department Store damaged	100
Seattle, Wash.—Frye Packing Co. damaged	135
Phoenix, Ariz. — Southwest Aircraft Corp. bldg. damaged	50
Southington, Conn.—Fulton Market, Southington Furniture Co. and Guterch Men's Shop damaged	50
New Orleans, La.—Garage and warehouse occupied by U Drive It Truck Co., Fabacher Drayage Co., Jackson Brewing Co. damaged	60
Bishopville, Md.—Chicken hatchery destroyed	600
Kansas City, Mo.—Goodyear Tire & Rubber Co. warehouse and plant destroyed	480
Middletown, N. Y.—Todd business apt. block damaged	135
Detroit, Mich.—Redford Lumber Co. damaged	50
Milbank, S. D.—Milbank High School destroyed	90
Wytheville, Va.—Wytheville Woolen Mills damaged	135
Milton, Vt.—Milton Grade and High School damaged	80
Newport, Ky.—Dorsel Co. damaged	80
New Orleans, La.—Bldg. housing Worner Drug Stores, Inc. damaged	180
St. Paul, Minn.—Rock Island Motor Freight and National Truck Lines terminal damaged	80
Columbus, Ohio—Skilkin Bros. Construction Co. warehouse damaged	50
Cleveland, Ohio — Home of the Heights Maennerchor damaged	60
Wenatchee, Wash. — Wenatchee Bottling Works damaged	325
Toronto, Ont.—Tudor Hotel damaged	180
Dawson Creek, B. C. — Dawson Hotel,	

The battle against fire is often won by a few ten-thousandths of an inch . . . because that kind of precision in pump-making insures delivery of water *when wanted.* WATEROUS FIRE PUMPS have the precision that only long, specialized experience can create. For 57 years, WATEROUS has built pumps that are *dependable.* Specify WATEROUS, when you buy fire apparatus.

WATEROUS COMPANY ★ ST. PAUL, MINNESOTA



WATEROUS
CENTRIFUGAL-ROTARY
FIRE PUMPS

ACCEPTED IN SERVICE—
PROVED BY RESULTS!

FOILLE FOR *Burns*

- Quick relief of pain and shock
- Characteristic absence of infection
- Faster healing time
- Always ready for use

Foille's record of performance in fire-department service is founded on *results!* Foille eases pain—shortens the recovery time of the injured firefighter—gets him back on duty sooner. Simple to use, Foille is applied directly to the injury—nothing to mix or prepare—and does not require removal by the physician when treatment is continued. Light in consistency, free-flowing, Foille may be applied by sponge, brush or spray gun; is furnished in tubes and bottles for first aid kits, and bulk containers for hospital service. Write for the facts!

MSA FOILLE BURN KIT
FOR RAPID EMERGENCY USE

Contains a liberal supply of Foille for Burns, in jars which connect direct to efficient spray gun* for fast application—together with unit-packaged First Aid dressings and accessories, including sterilized muslin sheet. Strongly-cased for long service. Bulletin No. FA-73.

*When the spray gun (employing critical materials) is no longer available, these kits will be equipped with three 1¾" camels' hair brushes for speedy application of Foille. Spray guns will again be included when available.

MINE SAFETY APPLIANCES COMPANY
BRADDOCK, THOMAS AND MEADE STREETS
PITTSBURGH, PA.

Frontier Lumber Co., Central Garage, Dudley and Wilson Store, Kingsleys' Furniture Exchange, Royal Fruit Warehouse and Bldg. of Dominion Government Telegraphs damaged 135

La Junta, Colo.—Lamb Bldg. damaged..... 60

Fox Lake, Ill.—Harbrough Lumber yards and food locker plant destroyed..... 85

Kitchener, Ont.—The C. H. Doerr Candy and Biscuit factory destroyed..... 485

Sackville, N. B. — Steelship of Enterprise Foundrys, Ltd., damaged..... 80

Toronto, Ont.—Eastview Bus Line Terminal and garage damaged..... 125

Skowhegan, Me.—United Plastic & Woodworking Corp. factory bldg. and adj. boilerhouse destroyed 80

Lebanon, Mo.—Bldg. housing drug store and adjoining bldg. 50

Norfolk, Neb.—Campbell Clinic Bldg. destroyed 50

Cardin, Okla.—Rialto Mining Co. No. 2 mill destroyed 85

Monroe, La.—Monroe Furniture Co. Annex damaged 180

Lakeview, Mich.—Dole Supermarket damaged 60

Hagerstown, Md.—Three bldgs. of Central Chemical Co. damaged..... 280

Ypsilanti, Mich.—Recreation bldg. at Willow Run bomber plant dormitory..... 50

Long Branch, N. J.—George Silberstein factory destroyed 60

Buffalo, N. Y.—Hangar of Gardenville Airport damaged. Airport offices, a machine shop, CAA classroom, two tractors, trailer and 11 planes destroyed..... 50

Ellensburg, Wash.—The R. P. Tjossem & Sons flour mill destroyed..... 80

Seward, Alaska—Business block housing theatre, cafe, rooming house and liquor store 175

Webster City, Ia.—Main bldg. of McCullough's Inc. destroyed..... 50

Passaic, N. J.—John Rafner furniture store and four adj. bldgs. damaged..... 65

Evansville, Ind.—Evansville State Hospital for Insane destroyed 300

Spartenburg, S. C.—The Leader, dept. store, men's clothing store destroyed; Montgomery and Crawford's retail store and Raylass dept. store damaged..... 200

Juneau, Alaska — Three-story Cliff Apartments destroyed 80

Meriden, Conn.—Bldg. housing Warwick's clothing store and Bailey hardware store damaged 50

Cambridge, Mass.—Elks' Bldg. damaged... 80

Heppner, Ore.—Heppner Lumber Co. sawmill destroyed 50

Marshfield, Ore.—Elks' Lodge Temple destroyed 50

Toledo, Ohio—Toledo Edison Co. substation damaged 50

West Memphis, Ark.—Dacus Lumber Co. mill destroyed 60

Berkeley, Cal. — Restaurant, secretarial school, dental and other offices damaged.. 50

Steeleville, Ill.—Theatre bldg. and office of the Steeleville Ledger destroyed..... 50

Marion, Ind.—Marion Handle & Box Co. plant destroyed 80

West Liberty, Ia.—Bldg. housing Ashton hatchery destroyed 50

Manchester, Ia.—Bldg. of D. J. Meggenburg, destroyed 60

Detroit, Mich.—Holbrook Super Market destroyed 170

Lucasville, Ohio—The J. H. Brant General Store and adj. dwellings destroyed..... 50

Sandusky, Ohio—Masonic Temple destroyed 80

Dayton, Ohio — RKO Strand Theatre destroyed 80

Memphis, Tenn.—Apex Laundry, United 5 and 10 Cent Store and Dixie Castle Hamburger System bldg. destroyed..... 95

Marion, Va.—The Virginia Lincoln Corp. Furniture plant destroyed 800

Amery, Wis.—Bldg. owned by Northern Supply Co. destroyed..... 135

Hobbs, N. M.—Worth Hotel destroyed... 65

Denver, Colo.—The E and E Glass Products plant damaged 50

Marion, Ind.—Bldg. of the Producers Creamery damaged; genl. office, sales dept. and butter mfg. div. destroyed..... 135

Evart, Mich.—Lacey Block destroyed..... 80

Norfolk, Va.—Warehouses of **Benrod, Jurden** & Clark Co. damaged..... 65

Baldwin, L. I.—The Milburn Golf Club and bowling alleys destroyed..... 60

Buchanan, Va.—James River Hydrate Supply Co. destroyed..... 225

Rego Park, N. Y. — Rego Park Bowling Alleys, Scott's Sea Food House, Queens Food Exchange and seven other stores damaged 250

East St. Louis, Ill.—Bldg. housing Peerless Furniture Co., Hoehn's drug store and apts. damaged 50

Nevada, Ia. — Iowa Sanitarium Hospital owned by the Iowa Conference of the Seventh Day Adventist Church destroyed 65

Seattle, Wash.—Nesby Cafe destroyed; Green Parrot Theatre damaged..... 50

CLASSIFIED ADVERTISING

Bids Wanted, For Sale and Help Wanted $5 *per inch. Position Wanted,* $2.50 *per inch*

WANTED

Salesmen and jobbers to sell our Morning Pride Firecoats, with Wing Freedom Sleeves, Chest Protector, Face Protecting Collar, Wool Wristlets, No-Dirt Pockets. Made from Protected Rubber Fabric. Write Morning Pride Mfg. Co., 186 Home Ave., Dayton, Ohio.

FIREMEN WANTED

The City of Newport News is in need of firemen. Qualifications are not less than 155 pounds weight; height, not less than 5 foot 8 inches and a medical examination. Start at $162.50 per month. Working 24 hour platoon shifts, 30 days sick leave, 12 days vacation with pay. Address inquiries to Fire Chief, P.O. Box 140, Newport News, Virginia.

FOR SALE

Fire Department Supplies for Sale; Nozzles, fog and shut off, siamese, wrenches, coats, Indian Tanks, Brooms, lights, Fire Extinguishers, charges, hose and many other items used by Volunteer Fire Departments. For immediate delivery, owner expects to go into service and wishes to dispose of stock at once. No sales to dealers. Write to Box No. 10, c/o FIRE ENGINEERING, 24 West 40th st., New York, N. Y.

Oakland, Cal.—Albers Bros. Milling Co. warehouse, mill stocks and machinery on Oakland Terminal destroyed..... 5,000

Bridgeport, Conn.—Burritt Lumber Co. mill damaged 125

Gainesville, Ga.—Cotton warehouse damaged 60

Sylvan Beach, N. Y.—Sylvan Beach Boatyard destroyed 60

Boise, Ida.—Elks' Temple destroyed; adjoining firms damaged..... 180

Gloucester, Mass.—The D. O. Frost Corp. oil clothing mfg. plant and Parkhurst Marine Railway Co. destroyed..... 85

Minneapolis, Minn.—Freight terminal occupied by National Truck Terminal, Lee Cartage Co., Bruce Motor Brake Co. and Rock Island R.R. Co. destroyed..... 125

Shortsville, N. Y.—Empire State Pickling Co. plant bldgs. damaged..... 125

Winston-Salem, N. C.—Mineral Springs School destroyed 80

Defiance, Pa.—Broad Top Township consolidated school plant destroyed..... 200

Chicago, Ill.—Coe Laboratories, Inc., damaged 50

Kewanna, Ind.—Four Bldgs. housing market, hardware store and department store damaged 50

Haddonfield, N. J.—Public Service Co-ordinated Transport Co. garage damaged; 28 buses destroyed 500

Erie, Pa.—The W. J. Dairy damaged..... 50

Charleston, S. C.—Plant of Williams Gable Mfg. Co. destroyed..... 80

Dallas, Tex.—Missouri-Kansas-Texas freight depot damaged 50

Spokane, Wash.—Washington poultry plant, machinery, stock damaged..... 80

Centerville, Ia.—Seven tank cars and ten freight cars on Chicago, Milwaukee & St. Paul R. R. destroyed..... 60

Bay City, Mich.—Moose Lodge Bldg. and adj. dry goods store destroyed..... 85

Erie, Pa.—S. S. Kresge Co. store destroyed; apt. house and fur shop damaged..... 175

Saginaw, Tex.—Burrus mill and elevator damaged 4,250

Napa, Cal.—Montgomery Ward Co. damaged 125

Adron, Ia.—Bldg. housing variety store, tavern, barber shop, apts. and bldg. housing restaurant and store destroyed..... 80

Arkadelphia—Elementary school bldg. destroyed 125

Orlando, Fla.—The $170,000 fire reported in last month's issue is incorrect. The fire occurred in Winter Park, Fla., five miles distant from Orlando.

Toledo, Ohio—The $160,000 fire in the Frederick Paper & Twine Co. reported in last issue is incorrect. No fire of such proportion occurred in that city.

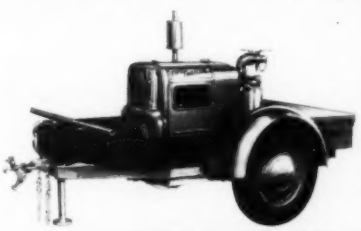
"Horse Sense"
is still important!

Horse drawn fire apparatus disappeared long ago, but "horse sense" is still important in fire fighting. Today, that "horse sense" recognizes (1) the urgent need for conservation of expensive heavy equipment and (2) the necessity for doing something about it.

That's where the relatively inexpensive LaBour Fire Trailer comes in. Made to order for saving much wear and tear on regular equipment, the Fire Trailer uses much less of America's precious supply of metals and machine hours.

If necessary, one man can operate the Fire Trailer—its air-cooled gasoline engine drives a foolproof LaBour Self-Priming Centrifugal pump. Water can be taken from any source—hydrant, stream or cistern and the pump delivers 150 GPM at 100 lbs. pressure—adequate capacity for most fires.

LaBour Fire Trailers are especially useful for releasing heavy pumpers, whose full capacity is seldom required, from such services as de-watering operations, controlling "grass fires," and as standby units when fires are under control.

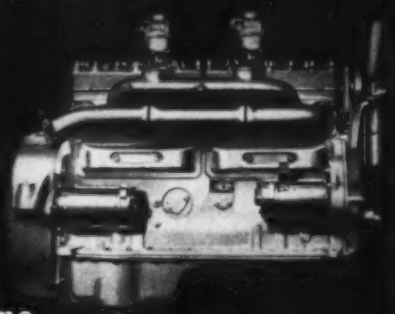


Write today for full information and prices on the versatile LaBour Fire Trailer—ask for Bulletin No. 49.

THE LABOUR COMPANY, INC.
Elkhart, Indiana, U. S. A.

LABOUR FIRE TRAILER

WARD LaFRANCE FOUR ALARM FEATURES



6 Cylinder Heavy Duty Engine

THE special Ward LaFrance, six cylinder, 150 horsepower engine is designed and built for heavy duty action. Its horsepower is developed at moderate speeds. Cylinder block is cast separately from the crankcase and is of the truncated design. All crankshaft and lower connecting rod bearings are of the steelbacked, precision type. Connecting rods are rifle drilled. Heavy 3" diameter balanced crankshaft and deep crankcase insure smooth engine performance. Cam shaft positive driven by helical cut, steel and semi-steel gears. Dual carbureter Blue-Flame Intake Manifold and Ricardo type cylinder heads give throttle performance of unequalled flash.

WARD LaFRANCE TRUCK DIVISION

New York Branch - 139th Street and Southern Boulevard

"Fire Apparatus of Quality"

ELMIRA HEIGHTS NEW YORK

BUELL WAV-A-WAY SIGNAL LIGHT

"Clears the Way" for Fire and Police Depts., Ambulances and all Emergency Equipment.

Powerful, concentrated beam swings from side to side to attract and compel traffic attention. Gets the right-of-way even in daylight. Heavy steel shell enclosing all operating mechanism in a stationary, dustproof, waterproof unit. Has no exposed moving parts to be tampered with. Long-life, slow-speed motor with self-oiling bearings. Supplied with red or clear lens.

Write for prices and descriptive folder.

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2992 COTTAGE GROVE AVE., CHICAGO, ILL., U.S.A.

WAR FARE

Alarms and Discussions Clipped and Culled from the War News of the Day, of Interest to the Fire Service.

Hot Off the Tape

"A woman's auxiliary organization duplicating the men's air raid warden organization 'man for man,' and a home-built fire engine for North Charleston's volunteer firemen are among vital civilian defense projects for Cooper River District" says our Charleston (S. C.) correspondent. . . . Maybe you think Rapid City (S. D.) is far from the battle areas, but don't think the lads are asleep. Chief Geo. A. Engler has graduated 17 auxiliary firemen with more in training. . . . Defense officials of Nassau and Suffolk (N. Y.) Counties have voiced approval of new double-alarm system of announcing blackouts advocated ordered by Gen. Haskell State Civilian Defense head—other parts of State (including New York City) not so happy. . . . While Portland (Me.) was having test air-raid a real fire was discovered by a warden in a restaurant basement. Regular and auxiliary firemen did their stuff. . . . Here's news!—Speaking before the Baltimore (Md.) Medical Society, Dr. George Baehr, chief medical officer of the Office of Civilian Defense, said *"Firefighting is now considered the foremost function of civilian defense in the British Isles."* . . . Tests conducted by the New York University Center for Safety Education, among 1,000 drivers, using the dimometer showed that the dimout lowers drivers' vision by 40 to 60 per cent warning of the greater need for care in driving during dimouts. . . . In Denver (Colo.) the Police Department sought a new victim for first-aid classes. Officer E. M. Johnson volunteered to pose as man with broken neck. Fellow bluecoats gave him the works—then rushed him to hospital with broken blood vessel. . . . When an army plane was forced to make an emergency landing over Bellmore (L. I.) its cargo of depth charges was jettisoned. Fortunately, bombs dropped in a grassy plot, failed to explode. This was explained by the fact that they are designed to explode not on contact, but as result of increased water pressure. Incident, however, points to increasing hazards from air traffic. . . . Los Angeles had a "yellow alert" when an "unidentified target later was found to be friendly, according to papers. . . . An unexploded bomb was found in a room of the Rice Hotel, Houston (Tex.). . . . In a row over "blackout regulations enforcement, 12 auxiliary police of Roseland (N. J.) up and quit. . . . *Fire Chief Peter Kiernan of Newark (N. J.) has taken charge of fire protection services of three army camps, following his retirement.* . . . After resting peacefully on a mantelpiece in London (England) for 25 years a shell, memento of the last war, decided to explode, and did! One injured. . . . Well, well—a more fortunate explosion was that of a time bomb which let go in the Rex theatre in Paris and killed more than 100 German officers and men. . . . New York City has two nifty new 15-ton bomb-carrier trucks. . . . Third occurrence of its kind resulted in the authorities investigating tie-up of Long Island commuting trains due, it's said, to injuries to third rail. . . . When an army bomber

crashed and carried its crew to their deaths, it set fire to farmhouse near St.Louis (Mo.). Fortunately, only occupants—a mother and infant—escaped death. . . . In another crash, eight army airmen were killed and charred remains of bomber strewn over an area approximately 500 square yards. Here, too, luckily, no citizens were injured. . . . A French scientist is reported to have invented a new fire-extinguishing fluid that solidifies around flame and encloses it in a film of glass. Mixture consists of powdered sandstone, bicarbonate of soda and feldspar, which is sprayed on the fire in liquid form. . . . Reported that 50 employees of a powder works were killed in an explosion in Antwerp (Belgium). . . . Pro-allied saboteurs set fire to Roumanian town of Barlad, completely destroying buildings, silos, etc. . . . *We'd like to heave a few real orchids to the volunteer girl workers of three unnamed chemical plants who continued their task of packing chemicals needed for the North African expeditionary forces after they had been burned—some of them badly—by the chemicals. The equipment consisted of a small cloth-enclosed glass tube containing methyl bromide—a compound whose fumes kill lice —a bearer of the typhus germ. Experts are trying to decide just what caused the burns—but while they are searching—the girls are working!*

* * *

Fire Continues to Take Toll

According to fire marshals and investigators, the number of known incendiary fires of a sabotage nature is surprisingly low. However, watchfulness is still necessary and it behooves every chief officer to carefully investigate and report on every blaze that "smells" and looks the least bit suspicious.

Here are some news accounts that make good reading for Hitler, Hirohito et al:

DENVER: Fire razed the Old Cotton Mill, which had been reconditioned and equipped to handle war contracts. Loss said to be $500,000. Origin, "faulty furnace sprayed oil on hot metal, causing an explosion."

LOS ANGELES: Fire, blamed by firemen on carelessly tossed cigarette, destroyed 7,000 bags of Yule mail at the Union Station. Some of it soldiers' mail, it is said. Charred wreckage revealed such gifts as sleds, dolls, boxes of candy, jewelry, wearing apparel, etc.

CINCINNATI: Shops and laboratories of the Cincinnati Gas & Electric Co. were swept by fire, destroying irreplaceable equipment including at least 5,000 gas meters—the city's entire reserve supply. Cause—unreported.

ROCHESTER: Explosion and fire, which razed building of Rochester Fireworks Company killed eight women and one man, burned two other employees. "Investigation being conducted."

NEW HAVEN (Ct.): In another explosion in the plant of Winchester Repeating Arms Company here a woman employee was killed, six others injured. Second explosion in past three months. Cause—?

MASSENA (N. Y.): Eight persons, seven of them night shift workers, perished in explosion and fire which destroyed a small restaurant and filling station on outskirts of this northern New York town. Four injured, one seriously. Gasoline blamed.

CHICAGO: One workman was killed, 47 others hurt in explosion and fire at Electrocast Steel Foundry Co. in sub-

The war has got us more than ever on the alert. New and better Homelite Generators—more portable, more powerful than ever—are daily rolling off our assembly line and going direct to our Armed Forces.

In design, in performance, and in the number of different units, Homelite has made tremendous forward strides. It doesn't mean much to you now—but after the war, your new Homelite Portable Pumps and Generators will be better performers than ever before.

★ ★ ★

Homelite workers have done their job well enough to earn the Army-Navy E—a good indication that they'll do their job well enough to meet your demands when peace is finally declared.

ARMY E NAVY

HOMELITE CORPORATION
PORT CHESTER, NEW YORK

STERLING MODEL "M"

GENERAL ALARM SIREN

You Can Depend On It *ALWAYS*

An
AIR RAID ALARM,
TOO!

The Sterling Model "M" Siren, while primarily built for fire alarm signals, is particularly well adapted for the emergency duties attendant on National Defense. Such a duty is the Air Raid Alarm.

This sturdy public alarm with its shrill, penetrating and distinctive vibrations meets and solves both problems.

Rugged and dependable — it is built to deliver 24-hour service. Its performance has never been equalled by any of the other sirens on the market today!

Write for detailed literature

STERLING SIREN FIRE ALARM CO., Inc.
55 Allen Street Rochester, New York

urban Cicero (Ill.). Damage, $125,000. Cause?—you guess.

BURLINGTON (N. C.): Fire razed warehouses of Barnwell Bros.; 20 trucks and trailers loaded with merchandise destroyed. Fire, beyond city limits, balked firemen. Loss, $500,000.

WHITE PLAINS (N. Y.): Not fire, but strange, fatal poisoning killed three workers, struck down 130 others with peculiar malady. All were working in wire and cable plants, on war orders.

PHILADELPHIA: Two hundred firemen, Coast Guardsmen and volunteers, were burned and otherwise injured in fighting 3-alarm fire that destroyed a waterfront warehouse stored with chemicals and baled cotton. FBI and other agencies "investigating cause."

SEATTLE (Wash.): Four service men were killed and three injured in a fire on a United States transport, a former luxury liner "in Northern Waters." Victims were trapped in burning passageway while flames swept ship's superstructure. Crew extinguished fire, "but ship suffered serious damage."

RIVERHEAD (L. I.): Officers' barracks of a detachment of negro soldiers billeted here burned, officers losing their uniforms and personal effects.

WASHINGTON (D. C.): Small fire —just a box car burning in the railroad yards—but who knows how much medical supplies went up with it? Two Alexandria (Va.) companies extinguished blaze. Hot box (?).

CEDAR RAPIDS (Ia.): Twenty-nine planes went up in smoke in fire at Cedar Rapids Airport. Cause—according to Fire Chief E. P. Kohout, was welder's torch. What, another one! Thought we had learned our lesson!

SO. ATTLEBORO (Mass.): Large storage plant of Rhode Island Cardboard Company loaded with pulp and finished cardboard destroyed in worst local fire in a quarter of a century. Loss, $200,000, according to Fire Chief Fred Clark.

Plant Explosion

One woman worker was injured and windows on the top floor of the three-story Adhesive Products Company at 430 Main Street, San Francisco, were shattered recently in an explosion followed by fire.

The explosion occurred shortly after the plant opened for the day's work when a short circuit in a switchbox caused an explosion of chemicals. The fire was quickly controlled but because of the dense smoke and proximity of defense plants, Chief Albert J. Sullivan ordered a second alarm as a precautionary measure.

The injured woman suffered cuts on her legs from flying glass and fifty other workers were endangered. An investigation was immediately opened by the Division of Fire Prevention and Investigation of the Fire Department.

BOB GREENOCK.

Charles J. Morris Dies

Charles J. Morris, Sr., who had served four terms as Mayor of North Bergen Township and was a member of the Hudson County Board of Freeholders more than twenty-five years ago, died on January 26, after a year's illness.

At his death he was auditor for the New Jersey State Firemen's Association.

☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆

YES! Pacific Portable Pumpers are enlisted for this war. Military demands and priorities curtail vital materials. Our endeavor has always been to render the best in quality and service. Your understanding and consideration of our position in these trying times is greatly appreciated.

Fire Fighting Equipment Division

PACIFIC MARINE SUPPLY COMPANY

SEATTLE, WASHINGTON

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The Watch Desk

(*Continued from page* 141)

Chase (Md.) the Chevy Chase Fire Department was called to pump in water to the stable. . . . Fire, starting in basement of her home, shorted front doorbell which continued to ring until Mrs. Anthony Martin (Elizabeth, N. J.) investigating, discovered blaze and summoned firemen in time to hold down damage. . . . One of world's largest chicken hatcheries in Bishopville (Md.) burned with a loss of nearly $900,000. Two and a quarter million eggs, 40,000 chicks and 30 hatcheries went up. . . . Division Chief William Taubert on "V" duty at Eng. 72, New York Fire Department during a cold spell, with other firemen, discovered through the rear windows of the firehouse, a raging fire in a neighboring loft building. . . . New York City's famous Fire Bell Club staged its fourth and reported most successful annual dinner and get-together in February. . . . After many complaints, the janitor of the First Friends Church, Emporia (Kans.) finally got the heat in the edifice up to where the parishioners wanted it—but it didn't stay that way long. The furnace overheated, set a fire which destroyed the structure—loss $10,000. . . . We're told that Bing Crosby got at least one smile out of the fire that destroyed his 20-room home; in the ruins he found $2,000 in a black and white sports shoe, untouched by the flames. . . . A motorman was burned to death and 24 others were hurt when two interurban streetcars crashed head on south of Pittsburgh (Pa.). . . . New York City has dropped its stage and screen **"walk—do not run"** fire warnings, instituted after the Boston Cocoanut Grove tragedy. . . .

* * * * *

Still They Die!

In addition to the above, the month's accounts sent us of fatal fires includes the following:

WINTERPORT, Me.: Three children under six years of age, and three other persons were burned when fire destroyed home of Mr. and Mrs. Roderic Clark.

HOUSTON, Tex.: Five children ranging from 8 months to 5 years in age and a woman were burned to death in a blaze in a 4-apartment frame dwelling. Cause unknown.

AUGUSTA, Me.: Death toll in a midnight rooming-house fire reached 7 with another critically burned. Victims were tenants of 3-story wooden rooming house which was "an inferno" before firemen could arrive from firehouse two blocks away.

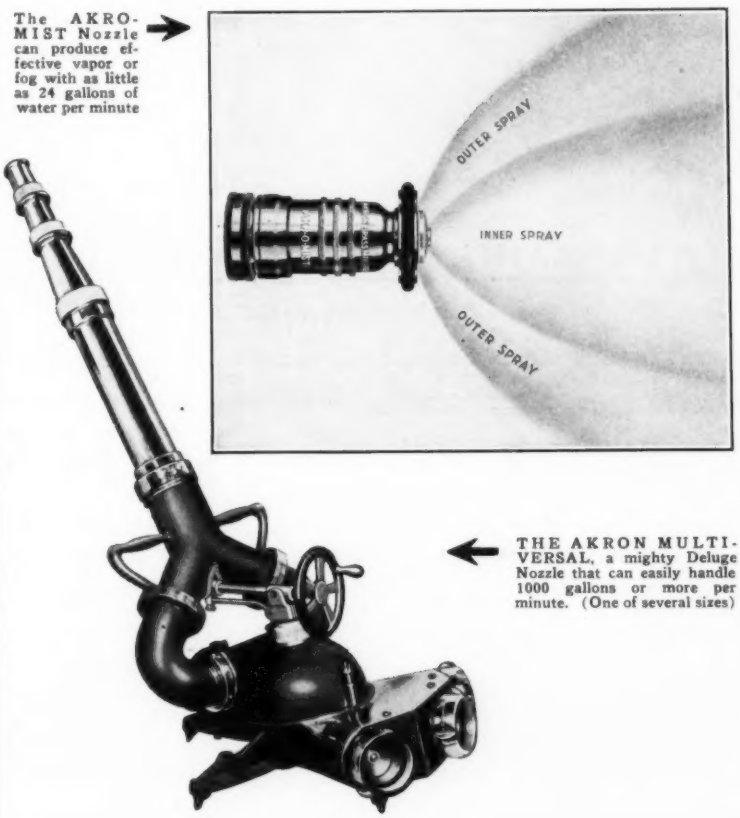
BRANCHVILLE,, Md.: Fire, which destroyed a 2-family dwelling killed two small children who had been left in a room while their mother went to a store. Firemen of three towns were unable to save house. Delayed response of some Departments, it is claimed, was due to reported confusion over the new Eastern army restrictions banning use of fire sirens.

TERRA ALTA, W. V.: Three Oakland (Md.) youths were burned to death when the truck in which they were riding failed to negotiate a curve and overturned and caught fire. They were all pinned in the blazing cab of the truck. Two were to have been inducted into the army the day of the accident.

From a Spray to a Deluge—

There is a size and type of AKRON quality-built Nozzle to meet every Fire Protection Need

The AKRO-MIST Nozzle can produce effective vapor or fog with as little as 24 gallons of water per minute



THE AKRON MULTI-VERSAL, a mighty Deluge Nozzle that can easily handle 1000 gallons or more per minute. (One of several sizes)

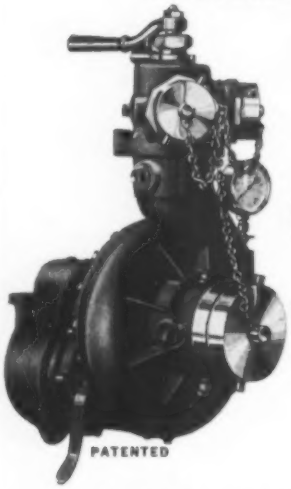
When you buy AKRON products, which include nozzles, couplings and a wide range of other fire fighting appliances, you get the best in design, workmanship and quality—the result of more than 20 years of research and development.

AKRON BRASS MFG. COMPANY, INC.

WOOSTER OHIO

Barton Front Mounted
AMERICAN-MARSH PUMPS
Barton-American Midship

FIRE APPARATUS CENTRIFUGAL PUMPS



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AUTOMATIC VACUUM PRIMER

HIGH PRESSURE AT LOW ENGINE SPEED

BOOSTER TANK OPERATION WITH TRUCK IN MOTION

Offered in capacities from 250 to 600 G.P.M.

AMERICAN-MARSH PUMPS, INC.
Battle Creek, Michigan, U. S. A.

• BOOKS
For the Modern Fire Fighter . . .

Recognized by the Fire Service as Standard

Fire Chief's Handbook . $4.00
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Questions and Answers for Lieutenant and Captain $2.50
Fire Service Hydraulics . $3.00
Fire Station Design . . . . 75¢

(*The above prices are all postpaid*)

CASE-SHEPPERD-MANN PUBLISHING CORP.
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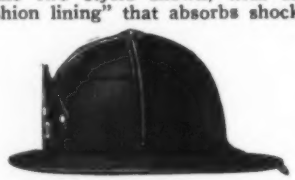
CAIRNS
SOLID TOP, LEATHER

Regulation Style

HELMETS

employ no critical materials, so are available promptly in two weights and in the two styles shown, with safety "cushion lining" that absorbs shocks.



Drop Brim Style

Write for Circular 30C

CAIRNS & BROTHER
Outfitters to Firemen Since 1836
444 LAFAYETTE STREET - NEW YORK

Regional Schools Held

The Office of Civilian Defense is conducting a series of regional schools to train fire department instructors in methods of teaching the fighting of fires such as might result from enemy bombing, OCD Director James M. Landis announced recently.

Those who attend the schools—regular fire department instructors and other qualified members—will in turn conduct schools under the auspices of state and local governments for other fire department instructors. Each of the OCD schools provides 80 hours of classroom instruction, principally in the most effective methods of teaching major fire fighting practices.

Between twenty-five and thirty men have enrolled for each of the teacher-training schools, which run for two weeks and are conducted by W. Fred Heisler and Emmett Cox of the Fire Defense Section of the OCD Protection Branch.

"The Office of Civilian Defense considers it important to train an adequate staff of key instructors in the best techniques of teaching their subject," Mr. Landis said. "The experts who attend our courses will go back to their states and there conduct teacher-training courses for other instructors. The much larger group of qualified teachers thus created will instruct the members of regular fire forces of their cities in advance fire fighting techniques.

"The emphasis of our courses is on teacher-training, as the knowledge of an instructor is of little value if he cannot impart it effectively to the rank and file of firemen who must be prepared to put it to practical use if the emergency comes."

"Now, with the OCD auxiliary pumpers, hose and accessories being shipped into target-area cities, and with civilians being trained for their part in the event of bombing raid by the enemy, the time is approaching when city by city this country will be well prepared in all respects for any fire our enemies can drop on us from the sky."

The first of these schools was held at State College, Pennsylvania, for regular fire department instructors and other picked members from the First, Second and Third Civilian Defense Regions, comprising New England and east coast states as far south as Virginia.

Another school was held at Purdue University, Lafayette, Indiana, for the Fourth, Fifth and Sixth Regions, consisting of the Southeastern states and the remaining states east of the Mississippi.

A third school was held at Oklahoma Agricultural and Mechanical College, Stillwater, Oklahoma, for the Seventh and Eighth Regions, including Minnesota, Iowa, Missouri, Arkansas, Louisiana, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Texas, Wyoming, Colorado and New Mexico.

A fourth school may be held later on the West Coast.

Omission

On Page 94 of the February issue of FIRE ENGINEERING in the listing of the winners of the Fire Prevention and Clean-Up Contest, the name of Louisville, Ky., was omitted from the list of cities which tied for fourth place.

Department and Other Reports Received

British Columbia—Twentieth Annual Report of the Fire Marshal for the Province of British Columbia. 1941. 22 pages.

Schenectady, N. Y.—"Your City Government," an account of the department organization, cost and operation of municipal services during the year 1941. 48 pages.

Fitchburg, Mass.—Annual Report of the Fire Department of the City of Fitchburg, for the year 1941. 22 pages.

Panama—Report of the Bureau of Safety of the City of Panama for the year 1941. 58 pages.

Denver, Colo.—Annual Report of the Fire Department of Denver, Colo., for the year 1941. 30 pages.

Fort Collins, Colo.—Annual Report of the Fire Department for the year 1941. 16 pages.

Miami, Fla.—Consolidated Yearly Report of Fire Department Activities for the fiscal year 1941-1942. 15 pages.

Minneapolis, Minn.—Annual report of the Fire Department for the year 1941. 42 pages.

Denver, Col. — "Defend Your Home and Property," a publication of the Fire Prevention Bureau of the Fire Department—9 pages.

Wilmington, Del.—Annual Report of the Bureau of Fire for the fiscal year ending June 30, 1942. 24 pages.

Firemen's Association of the State of New York—Proceedings of the 70th Annual Convention. 2 volumes.

Sacramento, Cal.—Fire Prevention Manual issued by the Sacramento Fire Department. 54 pages.

Colorado State Firemen's Association.—Proceedings of the 12th Annual Fire College and 26th Annual Convention and Tournament. 56 pages.

Prince Albert, Saskatchewan — Fire Loss Report for the year 1942.

Middletown, Ohio—Annual Report of the Middletown Fire Department for the year 1942.

Long Beach, California—Fortieth Annual Report of the Division of Fire for 1941-1942. 72 pages.

Wellington, N. Z.—Sixteenth Annual Report and Statement of Accounts for the year ended March 31, 1942, of the Wellington Fire Board.

New Jersey State Firemen's Association—Proceedings of the Sixty-Fifth Annual Convention.

Springfield, Ohio—Annual Report of the Fire Department for 1942.

Sprinklers Cause Loss in Kodak Plant

One fireman was overcome by fumes from a fire on the fifth floor of the Eastman Kodak Company in Rochester, N. Y., recently.

The fire proved to be in a refuse box, but before it was extinguished the automatic sprinklers began working, flooding the floor with water which dripped to the first floor, causing considerable damage. There was no fire damage.

RAYMOND G. LEE.

DEPENDABLE SAFETY for the FIREMAN with an ACME FULL-VISION GAS MASK

Under the most extreme fire service, the Acme FULL VISION All-Purpose Type FD Gas Mask has proven its dependability to the fireman. Its outstanding performance has provided Protection, Comfort and Safety to the wearer of an Acme Gas Mask.

The reliability of the Acme Gas Mask is embodied in its many exclusive features. The fireman is provided with NON-DISTORTED Acme FULL VISION wide, flat Safety Glass Lenses that enable him to see clearly in all directions. This feature is found ONLY in Acme Gas Masks.

The Acme Type FD Gas Mask provides protection against Carbon Monoxide, Acid Gases, Organic Vapors, Toxic Smokes and Fumes.

The exclusive Acme Automatic Timer, with its half white and red dial, at a glance indicates to the fireman how much service life remains in his canister. The Timer is sturdily built so that it cannot get out of order, nor fail to operate, as it is actuated ONLY by the process of breathing.

Write for Prices and Folder No. FE 401 TODAY

ACME PROTECTION EQUIPMENT COMPANY, INC.
Manufacturers
3616 LIBERTY AVENUE Cable Address: ACMEPROCO PITTSBURGH, PA., U.S.A.

EDDY
Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience goes into their manufacture and they embody valuable and exclusive features.

Write for the FACTS.

EDDY VALVE CO., Waterford, N.Y.

TREAT BURNS
WITHOUT DELAY

Promptness is vitally important in the treatment of burns. Gebauer's Tannic Spray in the dispenseal bottle is always ready for instant use. Stable, antiseptic solution forms pliable tannic film over affected area. Minor burns seldom require bandaging or dressing. Convenient. Economical. Literature on request.

Available through physicians' supply houses, safety equipment dealers and drug stores.

THE GEBAUER CHEMICAL CO.
CLEVELAND, OHIO, U. S. A.

Gebauer's
TANNIC SPRAY

THE New WHEAT
Rechargeable Spotlight

MODEL 156

2500 FOOT BEAM
25000 CANDLE POWER
1000 HOURS OPERATION

Critical Materials Reduced to a Minimum to insure Availability

FEATURES

★ Positive "non-spill" Construction
★ Less expensive Operation than dry cells
★ Free use of Hands. Light carries conveniently on Shoulder Strap
★ Weighs only 92 ozs. complete
★ Simple to Charge and Water No need to take Lamp apart
★ Light can be Focused and Directed as Desired

WRITE FOR COMPLETE DETAILS

KOEHLER MANUFACTURING COMPANY, INC.
MARLBORO, MASSACHUSETTS, U. S. A.

Gasoline Explosion Kills Eight

Twelve hours after being absolved of blame in an explosion which cost the lives of eight men on January 4, 1943, in Massena, New York, Ernest Sheets, 63, died in the Hepburn Hospital in Ogdensburg of first and second degree burns.

Victims of the blast, worst in the history of Northern New York in recent years, were: Barton C. Lawrence, 45, Lisbon; Fred H. LaBounty, 19, Waddington; Peter J. Black, 19, Ogdensburg; Ernest F. Olin, 33, Canton; Maurice Kiah, 28, Ogdensburg Glen Cutway, 27, Heuvleton; Louis John Neverette, 36, Massena, and Carl O. King, 25, Massena. With the exception of Kish, all of the men were employed at a war plant in Massena. Three others suffered minor burns in the holocaust, including Walter Hutchins, owner of the station.

The explosion occurred shortly after 11 p. m., January 4, after a bus, driven by Kiah, had stopped at the Walter Hutchins restaurant and gas station to allow some of the occupants to purchase light lunches before reporting for the midnight shift. Investigating officials learned that a car with Olin and King had stopped at the station to secure gas for another car.

The gas was placed in a pail and this was brought inside the station while ration coupons were given. Sheets entered the building and lighted his pipe. Immediately there was a terrific explosion which filled the interior with fire. Two other men were pulled from the station by a companion who did not enter.

Massena fire department was notified and sent a pumper to the scene, two and a half miles distance from the village, but the structure was beyond saving. Water was poured on the ruins to hasten the work of removing the bodies. Immediate identification of the bodies was extremely difficult but it was checked with officials of the war plant who checked the men not reporting for work on the shift.

Authorities later learned that the inflammable liquid had been inside the gas station since a severe ice storm had crippled power lines and the electric pumps were not operating. Hutchins had placed a milk can in the building and was pouring gas from this into a can for the two men when the bus arrived. He stopped this work to serve the customers and a moment later Sheets lit the match which precipitated the blast.

SANFORD D. DEWEY.

The Cover Picture

This photograph strikingly illustrates the value of arriving even a few seconds earlier at a fire. Truly "seconds count"! The prompt and accurate transmission of an alarm and rapid response thereto are of equal importance in reducing the toll of life at fires.

The fire illustrated occurred in January of this year at the building of the Omaha Packing Company, Lowell, Mass. Twelve persons were injured. The young lady hanging from the ladder dropped safely into a life net, but the workman clinging to the window sill at the right was not so fortunate. He lost his grip and fell before the net could be properly be placed beneath him, and was badly injured. Many were brought to safety by the aerial ladder.

"ALL AMERICAN CHOICE"
INVINCIBLE NOZZLES
PREPARE — PROTECT

Portable equipment is the watchword of today.

Buy—

INVINCIBLE NOZZLES

and enjoy the benefits derived by experience of the pioneers in the nozzle field.

Fig. 403

F. N. McINTIRE BRASS WORKS
Successors to A. J. Morse & Son, Inc.
BOSTON, MASS.
1837 -- 1941

Always Ready

QUAKER FIRE HOSE

CHEMICAL
•
FORESTRY
•
SUCTION
HOSE

QUAKER QUALITY

REG. U.S. PAT. OFF.

QUAKER RUBBER CORPORATION
Main Office & Factory: PHILADELPHIA
NEW YORK • CHICAGO • HOUSTON
Western Territory
QUAKER PACIFIC RUBBER COMPANY
SAN FRANCISCO • LOS ANGELES

Chief Warr Dies

Edward H. Warr, Chief of the Baltimore, Md., Salvage Corps since 1927, died suddenly on February 25th from a heart attack he suffered the day before.

Chief Edward H. Warr

Chief Warr was born in Baltimore fifty-six years ago. He joined the Fire Department in 1912 and in ten years advanced to the rank of captain. In 1927 he left the Department to assume leadership of the Salvage Corps.

During his membership in the Fire Department Chief Warr was commended twice for meritorious service. He was injured on several occasions, twice being blinded temporarily by smoke or flames.

Last year he was elected President of the Eastern Association of Fire Chiefs. He is survived by his widow, Mrs. Delma Roberts Pennington Warr and by three sons and one daughter.

Chief Brennan May Be Consultant

Fire Chief Charles Brennan of San Francisco, on an extended leave of absence since last June when he suffered a heart attack while fighting a fire, has been offered a job as consultant in the State Fire Marshal's office, it was disclosed recently.

State Fire Marshal Jay W. Stevens made known the offer and said Chief Brennan "is to let us know as soon as possible." In Los Angeles where he has spent most of his time recuperating, Chief Brennan said that the State job "is all in the future" and "We'll have to see what the circumstances are." He reiterated that there is nothing he would rather do than resume his former position as head of the San Francisco fire department, but said that if he is told by his physicians that he must do something less strenuous he would consider the State job.

Stevens said that Brennan, if he accepted, would be used in the San Francisco office as a consultant "where he can clear all sorts of questions and fit into our civilian defense program on fire protection."

Chief Brennan recently returned to San Francisco but was forced to ask another extension of his leave granted by the fire commission because his physician turned thumbs down on his returning to work. His present leave expires March 13. BOB GREENOCK.

CRACKERJACK FIRE HOSE

Flexible enough to handle and coil easily — tough enough to stand the hardest usage — CRACKERJACK FIRE HOSE has led in quality and value for more than 35 years.

AMERICAN RUBBER MANUFACTURING CO.

Factory and General Offices

PARK AND WATT STS., OAKLAND, CALIF.

MORE THAN 35 YEARS' EXPERIENCE IN THE MANUFACTURE OF FIRE HOSE

EASTMAN

.....we were more than satisfied with its quality and performance, which is another fine tribute to your excellent workmanship and design.

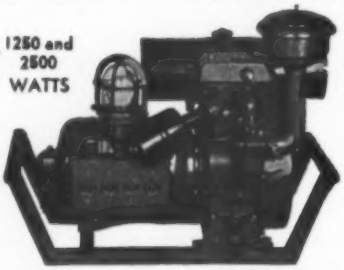
(Excerpt from a Customer's Letter)

DELUGE GUNS

SAMUEL EASTMAN COMPANY, Inc.
CONCORD, N. H.

"U.S." PORTABLE LIGHT PLANTS

1250 and 2500 WATTS



This 1250 watt, portable unit has been designed expressly for fire department use. It is small, light, compact and equipped with carriers for easy portability out on the job. Air-cooled 4-cycle engine 2⅝" bore x 2⅝" stroke. 2.4 H.P. 2 gallon fuel tank. Quick starting. Also 2500 watt size.

LARGER SIZES AVAILABLE

Write for Catalog.

UNITED STATES MOTORS CORP.
430 Nebraska Street, Oshkosh, Wis.

ELK HART IND

A PARTIAL LIST OF ELKHART PRODUCTS

Shut-Off Nozzles
Controlling Nozzles
Turret Pipes
Fire Department Extinguishers
Extinguisher Holders
Fire Truck Body Fittings
Hose House Equipment
All Types of Hose Couplings
Sliding Poles, Railings and Canopies
Fog Nozzles
Hose Test Pumps
Threading Tools
Coupling Expanders
Pump and Hydrant Valves
Hose Racks and Cabinets
Siamese Connections
Underwriters' Industrial Extinguishers

38 years' service in the fire field

Prompt service - Quality products

Send for illustrated folder on the New Elkhart Mystery Nozzle.

ELKHART BRASS MFG. CO.
ELKHART, INDIANA

Manufacturers' Announcements

(*Continued from page* 144)

Statement by President of American-LaFrance

Mr. E. E. O'Neil, President of the American-LaFrance-Foamite Corporation of Elmira, N. Y., recently issued the following statement to the employees of his company.

"This year, more than ever in our history, should be more than an occasion for the exchange of goodwill and wishes. It should be a time for rededication to the cause of freedom and fair play with which we, the American People, have long been identified, and, with those thoughts uppermost in my mind, I send you this message of congratulation.

"It is a message of congratulation because the record of achievement of your company during the past year is one in which you can all take real and wholehearted pride.

"Despite the scarcity of critical materials, labor shortages and other cumbersome, but necessary restrictions, we have met the demands of the Army, the Navy, Maritime and War Industry in a manner that heretofore might have seemed impossible, but no problems seemed too prodigious of solution and no hours of labor seemed too long to make complete our wholehearted contribution to the cause.

"Further, and in spite of many drastic material substitutions, the high standards of quality which have always distinguished LaFrance-Foamite products have been rigidly maintained.

"Individually and as a company, we are growing stronger day by day under the trials and tribulations of war because we are united in our thinking and efforts to see that 'There will be Blue Birds over the White Cliffs of Dover' and 'A White Christmas' always for us all.

"We stand today on the threshold of a new world, one in which free men and women will live in health and happiness rather than under the leash of dictators and in the want and filth of their dictates, but before we can cross that threshold, further sacrifices must be made, which, however, are trivial by comparison.

"So, while we look forward with hope and confidence, we must not relax one iota in our efforts to continue the progress which has so effectively been set in motion, and to that end I pledge you full support to the best of my ability, which I hope will permit your continued untiring labor and confidence."

Booklet Published

The Hauck Manufacturing Company, 124-136 Tenth Street, Brooklyn, New York, has recently published bulletin 1038 entitled "Keep Ahead of Winter Troubles", describing their thawers and heaters. Copies will be sent upon request by the Hauck Manufacturing Company at the above address.

Flame-Proof Fire Blanket

The C. Walker Jones Company, of East Germantown, Philadelphia, Pa., has developed the Jomac Fire Blanket, a specially knit, flexible blanket that is 100 per cent flame-proof, regardless of the intensity of the fire. These blankets

JANESVILLE QUALITY TURN OUT CLOTHING

Still Available

Our turnout suits are giving excellent satisfaction in most of the large fire departments throughout the U. S. and

THERE MUST BE A REASON WHY SO MANY FIREMEN INSIST ON JANESVILLE QUALITY

Rubber and Duck Coats and Bunkers, Boots, etc.

JANESVILLE APPAREL CO.
JANESVILLE, WIS.

SEALAND TRAILER PUMPS

These mobile trailers made in 150, 250 and 500 gallon units are powered with gasoline motors, carry 500 ft. of double jacket Fire hose, and may be equipped with 100 gallon booster tanks. Skid mounted units can be furnished. Pumps can be purchased without trailers.

THE SEALAND CORP.
Centrifugal Pumps—Fire Alarm Systems—Modern Fire Apparatus
Post Road & Maple Ave.,
P. O. Southport, Conn.

A BADGE
to be proud of
NOW
more than ever
BEFORE!

For the past 60 years we have supplied the fire fighters of America with the finest badges they have ever worn.

Now — because of the government's prohibition of the use of nickel, brass, copper, nickel plating, and chromium — we are making these badges and insignia in sterling silver, sterling silver gold plated, rolled gold on sterling silver, and 14 karat gold.

Today — for just a little more, you get a sterling silver Braxmar Badge — without doubt the best badge you can buy anywhere.

Recommend Braxmar to all your fellow fire fighters and wear one yourself.

The blue covered catalog is the latest published but write for our new price list. Only prices in the catalog on 14 karat gold items are still in effect. All auto plates are discontinued for the duration.

C. G. Braxmar Co., 242 W. 55th St., N. Y.

BRAXMAR BADGES

Standard for over 60 years

are available in attractive, flame-proof containers that may be hung on the wall beside fire extinguishers, in first aid stations, or in the equipment provided for air raid wardens, thus making available effective protection wherever there is the danger of a workman's clothes being ignited.

New Exhaust Whistle for Apparatus

The Federal Electric Company, of Chicago, Ill., has just announced a new exhaust whistle for fire apparatus, which has been christened "Fury Exhaust Whistle."

The Federal Fury is made in two sizes to fit exhaust pipes from 4½" down to 1½" diameter. The Model L is 11" high, for application to exhaust pipes from 4½" down to 2¾", and Model S is 8½" high for exhaust pipes 2½" to 1¼" diameter. When ordering give outside diameter of exhaust pipe, or its circumference, because each whistle is carefully machined to fit your particular vehicle.

Each Federal Fury Whistle, completely assembled and furnished with pull cable and tension spring, may be cut into the exhaust pipe anywhere between the engine and the muffler—exact location depending upon space available.

Atlas Company Changes Name

In this issue of FIRE ENGINEERING it will be noted that the Atlas Fire Equipment Company, Inc., has changed its name to the Atlas Safety Equipment Company, Inc.

For many years, it has been felt that the former title was not indicative of the Company's proper name in the field of safety equipment and safety devices. Under the former name this Company was known to the firemanic world as a manufacturer of only a few items of their extensive line, two of the best known being the Atlas life saving net and life belt.

In addition to the volume of fire equipment business, the Atlas has always manufactured large quantities of safety devices for the industrial field. This line includes fire alarm and signalling devices for the marine field, as well as fire department equipment. They also manufacture all types of safety harness, engineered safety devices for airplanes, telegraph and telephone service, parachute equipment, etc.

The new name lends itself to the various fields and industries where safety equipment is necessary and recognized.

January Fire Loss

Fire losses in the United States in January were estimated at $27,733,000, a decrease of $7,832,000, or twenty-two per cent, from losses of $35,565,000 in January, 1942, according to estimates announced by the National Board of Fire Underwriters. The January losses also showed the substantial decrease of $8,736,000 when compared with losses of $36,469,000 in December, 1942, which was the highest monthly total since February, 1933.

Fyr-Fyter WILL HAVE AN ENLARGED AND IMPROVED LINE

We are hitting the Axis with all we've got. Consequently, there are no Fyr-Fyters available for civilian use except on the highest priority ratings. We know you are taking the best of care of the Fyr-Fyters you have in your possession. When the story of Victory is written, our enlarged manufacturing facilities will again be devoted to the production of Fyr-Fyter Extinguishers for civilian fire protection.

WAR IS NOT NEW TO US

We will be able to offer you an improved and enlarged line of Fyr-Fyters. We are old hands at converting from war-time to peace-time production. We served the Government in World War I and when the Armistice was signed we immediately began to produce for civilian use. We promise you that this performance will be repeated.

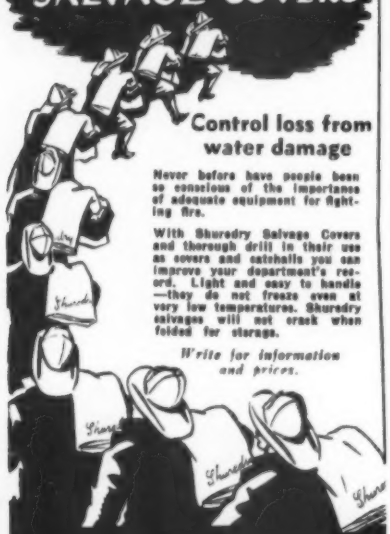
REMEMBER FYR-FYTER

In the meantime, remember our name. You will have obsolete, worn-out equipment you will want to replace as soon as we are in full civilian production again. We will be happy to serve you.

THE FYR-FYTER CO.
Dept. 101
Dayton, Ohio

Fyr-Fyter

USE
Shuredry
SALVAGE COVERS



Control loss from water damage

Never before have people been so conscious of the importance of adequate equipment for fighting fire.

With Shuredry Salvage Covers and thorough drill in their use as covers and catchalls you can improve your department's record. Light and easy to handle—they do not freeze even at very low temperatures. Shuredry salvages will not crack when folded for storage.

Write for information and prices.

Fulton Bag & Cotton Mills
Manufacturers since 1870
Atlanta St. Louis Dallas Minneapolis
New York New Orleans Kansas City, Kan.

WHEN YOU BUY
from
BOYER
You Get the best for less!
★
Headquarters for
FIRE APPARATUS
and FIRE
DEPARTMENT
SUPPLIES
★
BOYER FIRE
APPARATUS CO.
LOGANSPORT IND.

The Round Table

(*Continued from page* 143)

The problem has not been solved and the result is that a number of firemen need uniforms and parts of uniforms.

R. E. Mottesheard, Chief, Dearborn, Mich.: In the early stages of priorities and rationing, I furnished the tailoring concern who has been furnishing our uniforms for more than ten years, a letter based on past experience as to what our needs would be.

The firm was able to foresee their needs and placed orders for material accordingly. We therefore have not had any difficulty at this date in securing uniforms.

Richard Widman, Chief, Madison, Wis.: We have had very little trouble in getting uniforms to date.

On one occasion a letter was written to the uniform house and they in turn must have forwarded it to the War Production Board, for shortly thereafter the uniforms were received.

However, I feel that fire departments are not receiving the priority they are entitled to, and must have, for replacements as well as new materials. This applies to more items than uniforms.

* * *

The following replies in answer to a previous question on inspections of night clubs and other places of public assembly.

William L. Ryan, Chief, Dubuque, Ia.: Regular inspection of building and premises are made at least once each month and as often as deemed necessary. The City Building Code requires sufficient exits, proper marking of them, exit light circuit separate from other electric circuits, anti-panic bar locks on exit doors, enforcement of code requirements pertaining to fire extinguishers, no inflammable liquids permitted in building and no obstructions to ways of egress. On old construction no locking device that would permit the locking of exit doors during time of assembly is allowed.

Under the State Laws of Iowa governing cities and towns, fire department officials have the power to order the removal or correction of any hazardous condition.

While the State Law does not require fireproof decorations, our department insists on all decorating material being fireproof. All decorative material other than fireproof is ordered removed when found. Our City Council is preparing for early adoption a Fire Prevention Code set up by the National Board of Fire Underwriters, which when enforced, will cover all items of a hazardous nature. Our City Building Code has the same requirements for assembly halls as those required in theatres.

M. J. Fleming, Chief, Albany, N. Y.: We require at least two exits remote from each other, and one additional exit for each 4,000 square feet of floor area. Where tables and chairs are not secured to the floor, six square feet of floor are required for each person exclusive of aisle space.

The Fire Department has full au-

"The Superior"
A MODERN and PROVEN
LIFE NET

The SUPERIOR LIFE SAVING NET is stronger than any other, because of the tested breaking strength of 1,800 lbs. of each individual rope.

The direct pull shock absorber system eliminates all friction and its greater resiliency provides for a safer, easier landing.

Made of Chrome Molybdenum steel, the frame may easily be folded for storage within a few seconds.

For the utmost in LIFE SAVING VALUE . . . "SPECIFY SUPERIOR".

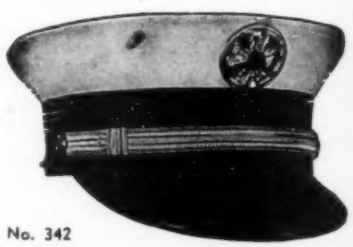
For ECONOMY, have your old net converted into a "SUPERIOR".

Other
SUPERIOR Products:
Training Nets and Structures
Ladder Belts
Life Size Training Dummies

William Moeller
Designer Consultant

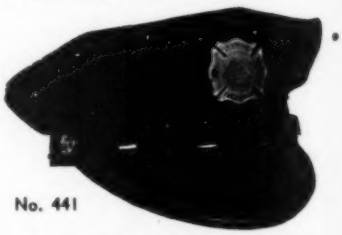
SUPERIOR FIRE
EQUIPMENT CORP.
235 E. 42nd St. New York, N. Y.

WENTWORTH
FIREMAN'S UNIFORM CAPS
UNION MADE PROMPT DELIVERY



No. 342

Wentworth Fireman Caps are made of the Highest Quality Standard Materials available and by the Best Skilled Union Craftsmen in all the New and Standard styles. Our 47 years of experience and skilled workmen guarantee you AMERICA'S GREATEST CAP VALUE in all WENTWORTH FIREMAN CAPS.



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Write direct for latest circular and prices or see your local dealer.

WENTWORTH-FORMAN CO., INC.
578b Washington St., Boston, Mass.
Manufacturers
Fireman Cap Specialists for Over 47 Years

One of 70

TYPE WS
MASTER ★ LIGHTS

EMERGENCY LIGHTS
for
FIRE CHIEFS

Notice the perfect balance with beam turned up or down. Use rechargeable batteries now.

A MASTER-LIGHT FOR EVERY NEED

CARPENTER MFG. CO.
"Master ★ Light ★ Makers"
200 Sidney St.
Cambridge, Mass.

For CIVILIAN DEFENSE

VALVES
HYDRANTS

Experience indicates that more damage is done in an enemy air raid by incendiary bombs than by demolition bombs. City officials and water works operators are striving for maximum fire protection by increased installation of high quality and dependable fire-hydrants and valves, such as M & H.

M&H VALVE
AND FITTINGS COMPANY
ANNISTON, ALABAMA

thority to order correction of hazardous conditions.

Inspections are made about every two weeks during the year and every day prior to New Year's Day to guard against last minute decorations of flammable materials.

E. L. Mount, Fire Marshal, Gadsden, Ala.: We inspect all dance halls and clubs and forbid the use of decorations in these places. We also check each theatre each day and prohibit patrons standing. All aisles and vestibules during performances must be kept clear, and in no instance must front vestibules be crowded by selling tickets to await the close of schedule. Every exit is inspected daily to see that panic bolts are working and that access to the exits is clear. Smoking during performances is prohibited.

Daniel H. Shire, Chief, Mason City, Ia.: Regular weekly inspection by fire department officers are made of night clubs. These inspections are made at different times during the night and day, so that one can never tell when the inspection is to be made.

We are authorized by ordinance to order the correction of all hazardous conditions.

Section 2104 (a) of our ordinance reads as follows: "Cotton batting, straw, dry vines, leaves, trees, celluloid or other highly flammable materials shall not be used for decoration purposes in show windows or stores without a permit, provided, however, that nothing in this section shall be held to prohibit the display of saleable goods permitted and offered for sale in the store. Electric light bulbs in stores or public halls shall not be decorated with paper or other combustible materials unless such materials shall first have been rendered flameproof.

No place can serve beer, etc., and have any decorations unless they are flame-proof, as there is an ordinance covering beer parlors and taverns in addition to the fire prevention ordinance.

Chief Smith of "Nickel Plate Road" Dead

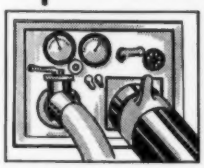
Charles Edward Smith, Safety and Fire Prevention Agent of the New York, Chicago and St. Louis Railroad Company, Cleveland, Ohio, died on January 10 after forty years of railroad service.

Mr. Smith was born in Dorchester, New Brunswick, and served with the Canadian National Railway from 1902 to 1912, as Clerk, Draftsman, and Chief Draftsman. Five years as a Valuation Engineer for the Boston & Albany Railroad, at Boston, followed, and in 1917 he went to Indianapolis as Fire Prevention Inspector for the old Lake Erie & Western Railroad. In 1924, after that line was made a part of the present Nickel Plate System, he came to Cleveland as Fire and Safety Inspector for the latter company, in which capacity he served until 1934, when he was appointed Safety and Fire Prevention Agent. He continued to serve in that capacity until his death.

A. B. Montville will succeed Mr. Smith as Safety and Fire Prevention Agent.

CONSERVATION FACTS
on how to save your hose

Fact No. 6
HOSE SHOULD BE TESTED REGULARLY!



All hose, on the truck, or in storage, should be periodically tested. Certain pressure rates should be established by every department as minimum for safety and all hose should be tested against these standards.

More than just Fire Hose—the Goodall line includes the finest quality—

Chemical Engine and Booster Hose
Suction Hose
Couplings, Strainers and Nozzles
Coats, Boots and Utility Suits

We are looking for some live-wire distributors in certain territories. Write to our main office giving a full description of your set-up.

Write for Catalog Folder

GOODALL
RUBBER COMPANY

6 SOUTH 36TH STREET, PHILADELPHIA
Branch Stocks in Key Cities Across the Country

Do as thousands of fire-fighters—
Wear H. S. COVER'S famous Nod & Shake
FOG-PROOF GOGGLES
Not just ordinary gas-tight, smoke-proof goggles! Water placed inside lense keeps fog off indefinitely!
SAMPLE $1.65
H. S. COVER, 68 Chippewa St., South Bend, Ind.

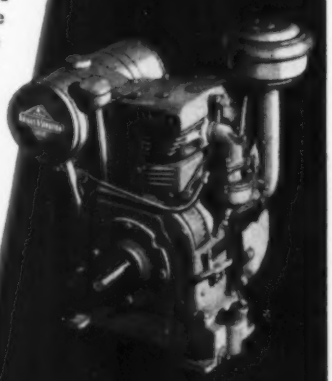
THE *Boost* THAT PUTS THOUSANDS OF H. P. INTO ACTION . . . .

At many bases, under various conditions, the starting of airplane motors often presents real problems. To step up, speed up and conserve starting equipment, "boosters" are used, powered by dependable Briggs & Stratton gasoline motors. This is but one of many "out-of-the-ordinary" applications which, with scores of more familiar uses, make up a most impressive list of ways the armed forces are being served by Briggs & Stratton motors.

As an emergency wartime service, we are trying to route "used" Briggs & Stratton motors that may not now be in service, into the hands of those who need them so badly.

Do you know of any Briggs & Stratton 4-cycle, air-cooled gasoline motors — no matter how old — that are not in active service? If so, please write us, giving sizes, model numbers, and a report as to general condition. We will serve as a "clearing house" to make contacts between owners and prospective purchasers.

BRIGGS & STRATTON CORP.
MILWAUKEE, WISCONSIN, U. S. A.



Beat the Axis
Invest in
U. S. War Bonds

4 CYCLE
BRIGGS & STRATTON
GASOLINE MOTORS

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FIRE ENGINEERING

MARCH, 1943

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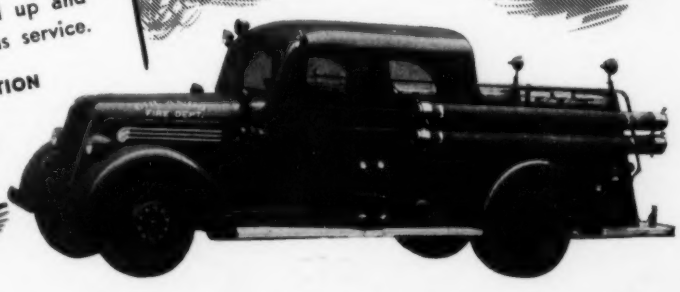

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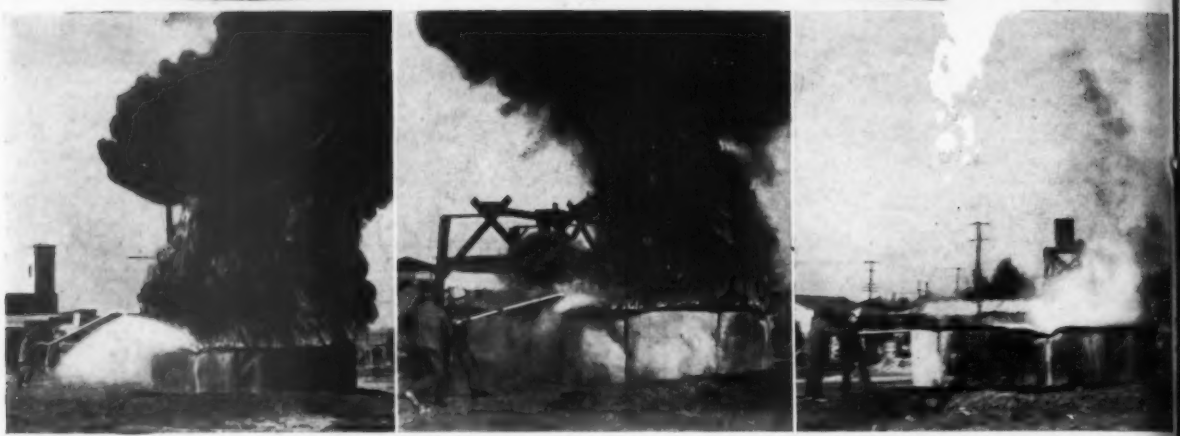

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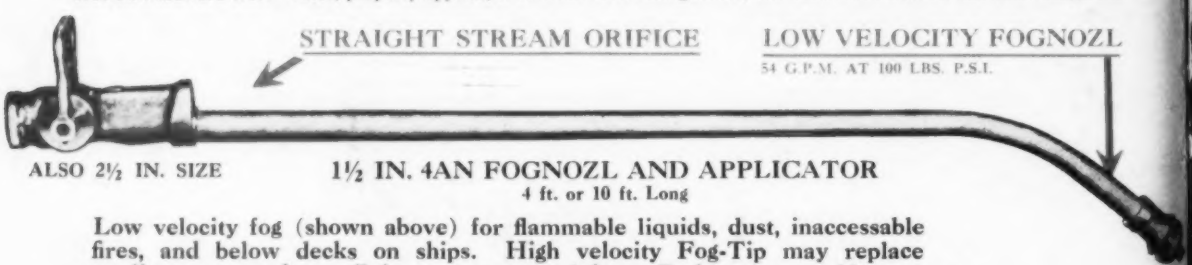

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